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WILLICH'S POPULAR TABLES

SEVENTH EDITION.

600039321O

POPULAR TABLES

ARRANGED IN A NEW FORM,
GIVING INFORMATION AT SIGHT FOR ASCERTAINING,
ACCORDING TO THE
CARLISLE TABLE OF MORTALITY,
THE
VALUE OF LIFEHOLD, LEASEHOLD,
AND
CHURCH PROPERTY,
RENEWAL FINES, &c.,
THE PUBLIC FUNDS,
Annual Average Price and Interest on Consols from 1731 to 1871.
ALSO
VARIOUS INTERESTING AND USEFUL TABLES,
EQUALLY ADAPTED TO
THE OFFICE AND THE LIBRARY TABLE.

BY CHARLES M. WILLICH,
LATE ACTUARY AND SECRETARY TO THE UNIVERSITY LIFE ASSURANCE SOCIETY.

SEVENTH EDITION.

EDITED BY
MONTAGUE MARRIOTT,
BARRISTER-AT-LAW.

BIBLIOTHECA BODLEIANA

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MDCCCLXXI.

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PREFACE TO THE SEVENTH EDITION.

A NEW Edition of these Tables being called for, I have endeavoured to render it worthy of the support which previous issues have received.

Table VIII., showing Prices of CONSOLS, RATES of INTEREST, with interesting and important facts affecting Monetary operations, has been brought down to the present day. (*See* p. 92B.)

The Table of DISCOUNTS, NOTES, BULLION, &c., has been continued to the last change in the Bank Rate. (*See* p. 179B.)

So many alterations have occurred in the coins and systems of account of various nations, that it has been found necessary to construct an entirely new Table from the latest authorities. (*See* p. 95.)

I have also added a TABLE OF EQUIVALENTS under the new system of Chemical Nomenclature, still retaining that published in 1861 in the Fifth Edition. (*See* p. 103A.)

MONTAGUE MARRIOTT.

26, Montpelier Square, S.W.
March, 1871.

PREFACE TO THE FIFTH EDITION.

THE last issue of these Tables, published in 1859, having been out of print for some time, I much regret the delay which has unavoidably occurred in preparing the present carefully revised and enlarged Edition.

I beg to state that TABLE VIII., showing the AVERAGE price of CONSOLS and the AVERAGE RATE of INTEREST, together with many important facts from the year 1731, has been continued up to the present time. (*See* p. 92*.)

To the CHEMICAL TABLES (XVII.) I have added 61 Elementary Substances with their Equivalents, Symbols, and Classification. (*See* p. 103*.)

Many additions have also been made to the ASTRONOMICAL TABLES. Up to the present time 65 Asteroids have been discovered, and the elements of 62 are included. (*See* p. 149.)

The TABLE of BANK DISCOUNTS showing the amount of NOTES issued and Stock of BULLION, with the MINIMUM rate of DISCOUNT, has been continued up to the 11th April, 1861. At the present time this Table will be found interesting, as it contains all the changes which have taken place since the 31st August, 1844. (*See* p. 179*.)

CHARLES M. WILLICH.

25, Suffolk Street, Pall Mall, S.W.
April, 1861.

PREFACE TO THE FOURTH EDITION.

THE present Edition contains a variety of new Tables, which I trust may be accepted as an excuse for the long delay which has occurred—the last Edition having been out of print in 1856.

INVESTMENT OF CAPITAL.

The most important to the man of business are NEW TABLES IV., VI., and VII., which show the prices which may be paid for property depending on the DURATION OF LIFE, so that the purchaser may receive a *certain* high rate of interest on the Capital invested, while the re-investments to replace Capital are calculated, on an average, to be made at 3 per Cent. It may be unnecessary to point out to a purchaser of annuities, whether depending on life, or for a fixed term of years, the great advantage it is to be enabled to ascertain, *at sight*, what the price should be, so that he may enjoy 5 or 6 per Cent., according to the description of property purchased, and to know that the price paid will afford him that interest, should the re-investments to replace Capital be made at not less than 3 per Cent. I incline to the opinion that, if we take all circumstances into consideration, a purchaser cannot safely calculate on a greater average rate.

By the Formula given in my paper read before the BRITISH

Association,* in 1857, questions, not resolvable by the Tables inserted in this Volume, may be readily calculated. The Formula is equally applicable to various rates of interest, and to Annuities for Terms of Years certain, or Annuities for Joint Lives, or the Longest of Two Lives, &c. Table XV., in the first Edition of this Work, for which I was indebted to the courtesy of Mr. Peter Hardy, has a similar object in view with reference to Property for Terms of Years certain, and is a particular case of the general Formula referred to, and may be constructed by it.

EXPECTATION OF LIFE.—LAW OF MORTALITY.

For several years my attention has been directed to the subject of an approximation to a Law of Mortality. In 1857 I submitted to the Meeting of the British Association † a paper, proposing a simple Formula for determining the expectation of life between the ages of 5 and 60, viz.:

If a = the age,

Then $\frac{2}{3}(81\frac{1}{2} - a)$ = Expectation, or years of after life-time.

The results obtained by the use of this Formula correspond very nearly, for a lengthened period, with the expectation deduced from the Carlisle Table of Mortality.

The English Life Table (Males) having been adopted by Dr. Farr in the Twelfth Report of the Registrar-General, and finding the differences between it and the Carlisle Table of Mortality were very uniform, I adopted the following Hypothesis, viz.:

If a = the age,

Then $\frac{2}{3}(80 - a)$ = Expectation.

This Hypothesis, as will be seen at page 178, gives the Expectation of Life corresponding very nearly with that calculated by Dr. Farr from the returns obtained from every parish in England and

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* See Note (No. 1) page 175.

† See Note (No. 2) page 176.

Wales. It will be observed that the Expectation of Life, according to the English Life Table (Males), is not so favourable, by about half-a-year, as that obtained by the use of the CARLISLE Table of Mortality.

BANK DISCOUNTS.

The change which takes place in the value of money is of the highest importance, as it affects all the transactions of the world. I have therefore prepared a Statement obtained from many authentic sources, embracing the last 14 years from 1844 to 1858. This Table includes the various rates of Discount adopted by the Bank of England,* and on each of the respective dates, the amount of Bank Notes issued or in reserve, with the amount of Bullion held, and the price of 3 per Cent. Stock on that particular day. I have also added the average price of wheat in each year. This Table presents at one view the progress of the Money Market during 14 years, and how it was affected by the Panics, the War with Russia, and the Indian Mutiny.

ASTRONOMY.

The large accession to the family of the ASTEROIDS, now numbering 56, has obliged me to make considerable additions, and I have endeavoured to tabulate the Elements up to the latest period. One page has been devoted to the MOON and the SATELLITES of the other Planets.

I have great pleasure in recording my gratitude to MR. JOHN COUCH ADAMS for the important aid he has continued to give me in

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* On 28 April, 1859, the Bank of England raised the Discount to 3½ per cent.

Bullion held	£17,640,342
Bank Notes held by Public . . .	21,938,625
Ditto in Reserve . . .	9,496,645

On the same day Consols, in consequence of the War Panic, opened at 88¼ and closed at 89¾.

this portion of the Work, and the kind manner in which he has allowed me to submit the proof sheets of these Tables for his revision.

QUADRATURE OF THE CIRCLE.

The possibility of Squaring the Circle has doubtless occupied the thoughts of most students in Geometry. The problem never has, and probably never will be solved; but a very near approximation to the truth may be obtained. At page 180 is inserted a Copy of the Diagram which Professor Stokes did me the honour to lay before the Royal Society on 10th May, 1855. The error, as will be seen, little exceeds the four-thousandth part of the side of the square sought, and consequently in the Diagram is an invisible point. This *geometrical* approximation is, I believe, nearer the truth than any yet recorded, and it has also the merit of a very simple construction.

Among the ADDITIONAL TABLES will be found some useful to the Student, and occasionally for reference to the Scientific man, viz.:

TABLE **E.** Length of CHORDS, Radius = 10,000, from **1**° to **90**°, and for which Table I am indebted to M. FRANCŒUR.

TABLE **F.** The AREA and DIAGONAL of SQUARES, the sides being from **1** to **100.** This Table has been re-calculated to 12 places of decimals.

TABLE **G.** The DIAMETER, SOLIDITY, and SUPERFICIES of SPHERES, from **1** to **100.** This Table has also been re-calculated to 9 places of decimals.

CHARLES M. WILLICH.

25, Suffolk Street, Pall Mall, S.W
May, 1859.

PREFACE TO THE THIRD EDITION.

So short a time having elapsed since the publication of these Tables in August last, the call for a *Third Edition* has afforded me much gratification.

To the present Edition is added a variety of Tables of general interest. In the TABLE of CONTENTS will be found a List under the head of ADDITIONAL TABLES.

HYPERBOLIC LOGARITHMS (Table A) are occasionally required by the Student and the Philosopher. I have therefore given the LOGS. of 1 to 1200, and have extended the Method proposed in the *First Edition* with reference to COMMON LOGS. to the HYPERBOLIC. The LOGS. of high numbers may thus be obtained without difficulty, by the aid of the few pages inserted.

Various Tables useful in TRIGONOMETRY have been added, and the arrangement adopted by showing side by side both the NATURAL NUMBER and the LOG. will, I trust, be found convenient both to the Student and the Practical Man.

The great progress which has been made during the last few years in adding new members to the family of the SOLAR SYSTEM, has induced me to endeavour to bring into one view a considerable portion of the knowledge we possess on the subject.

I have availed myself largely of the information given by the French 'BUREAU DES LONGITUDES,' in the 'ANNUAIRE' for 1853; and I feel both pride and pleasure in acknowledging my deep obligation to that distinguished Astronomer, Mr. JOHN COUCH ADAMS, the English discoverer of the Planet NEPTUNE, for the valuable information he has kindly communicated to me on various points of great interest and importance, and which I have incorporated into TABLE F at pages 151, 152, and 153.*

At Page 174, a Table is inserted of COMPARATIVE DATES from the time of the CREATION. As there appears to be some discrepancy in modern Works which allude to CHINESE CHRONOLOGY, varying with the authority followed, I will endeavour, briefly, to place before the reader some of the statements made by different Authors.

In DE GUIGNES' '*Histoire Général des Huns,*' 1756, the 1st year of the first Chinese Cycle is stated to be 2697 B.C.

The PERE GAUBIL, in his '*Traité de la Chronologie Chinoise,*' published by SILVESTRE DE SACY in 1814, states at page 8, that the first year of HWANG-TE was 2698 B.C.

FRERET, in '*Mém. Acad. des. Inscriptions,*' v. xviii. p. 259, assumes the 1st year of the Chinese Cycle to be the 1st year of HWANG-TE, and from certain astronomical phenomena determines that that year must have been 2205 B.C.

The Author of '*L'Art de Vérifier les Dates*' states 2397 B.C. as the 1st year of the first Chinese Cycle.

DU HALDE, in '*Description of the Empire of China,*' v.. i. p. 143, of translation, 1738, states that YAOU ascended the Throne 2357 B.C. in the 41st year of the preceding Cycle, which from the context was the VIth. There does not appear to be any authority to sanction DU HALDE in placing the commencement of the first Chinese Cycle at the 20th year of the reign of YAOU.

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* In this Edition, TABLE I, pages 149 to 153.

Ludewig Ideler, in the '*Mem. of the Berlin Acad.*' 1839, places the 1st year of Yaou 2357 B.C., and in the 41st of the VIth Cycle.

John Williams, in the '*Numismatic Chronicle*,' v. xiv. p. 169, has ascertained by a comparison of two Chinese Authorities with Du Halde, that according to the *mean*, the first year of Yaou was 2351 B.C., and the year one of the first Chinese Cycle was 2692 B.C.

After the closest investigation which I have been enabled to make, I do not feel it necessary to alter the date given by De Guignes as the year One of the First Chinese Cycle, viz. 2697 B.C., and therefore that year is the basis adopted in the Table of Chronology.

The following comparative Table which I have abridged from one far more extensive, given by Sir John Herschel in his '*Outlines of Astronomy*,' showing the exact commencement of the different Eras compared with the Julian Period, may prove of some interest to the reader of history, as well as to the Student in Astronomy.

Julian Epochs.	*Julian Dates.*			*Julian Period.*
Julian Period, commenced	1 Jan.	B.C.	4713	1
Creation of the World (*Usher*)	1 Jan.	„	4004	710
Olympiads (*mean Epoch in general use*)	1 July	„	3938	776
Building of Rome (*Varronian Epoch U. C.*)	22 April,	„	753	3961
Era of Nabonassar	26 Feb.	„	747	3967
Era of Seleucidæ	1 Oct.	„	312	4402
Vulgar or Dionysian Era	29 Aug.	A.D.	1	4714
Hejirah (*Astronomical Epoch, New Moon*)	15 July,	„	622	5335
Era of Yezdejird	16 June,	„	622	5335
Last day of Old Style (*Roman Catholic Nations*)	4 Oct.	„	1582	6295
Last day of Old Style in England	2 Sept.	„	1752	6465
Gregorian Epochs.	*Gregorian Dates.*			
New Style in Roman Catholic Nations	15 Oct.	„	1582	6295
Ditto in England	14 Sept.	„	1752	6465
Commencement of 19th Century	1 Jan.	„	1801	6514
Epoch Catalogue of the British Association	1 Jan.	„	1850	6563*

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* These 6563 Julian years contain 2,396,759 days. Herschel states that the value of a Tropical year is 365·24224 days, and that by an extension and emendation of the Gregorian Rule 100,000 years will contain 36,524,225 days, differing only one day from 100,000 real tropical years, such as they exist at present.

By the kind permission of the Hon. Baron Alderson, I have inserted a very curious Table (see G, page 154)* for the Easy Extraction of the Roots of Perfect Cube Numbers not exceeding nine Digits. By means of this Table, or some equivalent, the *American Calculating Boy* was probably enabled to extract the Cube Roots of Numbers within the above limits, almost instantly, and apparently by a mere mental operation.

Charles M. Willich.

25, Suffolk Street, Pall Mall,
June, 1853.

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[*] In this Edition, Table J, p. 155.

PREFACE TO THE FIRST EDITION.

In conformity with the opinion now generally entertained, and in which I fully concur, I have adopted, in the following Calculations, the Carlisle Table of Mortality, which gives a nearer approximation to the actual duration of human life than the Northampton, or any other Table hitherto in use.

In addition to Table XXVIII., for the Renewal of One Life in a Lease originally granted for Three Lives, I have, at the instance of several Stewards of Manors, calculated a Table (XXIX.) to show the Fine payable for the Renewal of Two Lives in a similar Lease. The want of such a Table has long been felt.

I have adopted a novel mode of arrangement in the greater part of the Tables, by which means, I trust, they will be rendered more generally convenient. By the same figures, both the Number of Years' Purchase and the Present Worth of £100 a year are shown; thus affording, *at sight*, a correct idea of the Value.

Table XV. will be found valuable by those who wish to enjoy a certain high rate of Interest on their Investments, while, from the state of the Money Market, they can only re-invest the surplus income at a low rate of Interest, in order to replace the Capital expended.

For this practically useful Table I am indebted to Mr. PETER HARDY.

At the present time I am induced to believe that TABLE **VIII.** will be interesting, as containing a record, from the year 1731 to 1851, of the ANNUAL AVERAGE PRICE of CONSOLS and the AVERAGE RATE of INTEREST, together with many important facts; also, the progress of the NATIONAL DEBT during the whole period.

Among the Miscellaneous Class of Tables, I have introduced the LOGARITHMS of NUMBERS 1 to 1200, and in order to make the Table available in the absence of one extending to 108,000, I have proposed a *New Method* of obtaining the LOGS. of high numbers with little trouble and perfect accuracy, to the 5th place. The same method may be applied with equal success to the NATURAL (or LORD NEPER'S) LOGARITHMS.

In the APPENDIX are various LEGACY DUTY TABLES, together with Examples and Scale of the Duties payable.

By reference to the TABLE of CONTENTS and the INDEX, the information contained in this Volume may be readily found.

CHARLES M. WILLICH.

25, Suffolk Street, Pall Mall,
August, 1852.

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LIFEHOLD,

LEASEHOLD,

RENEWAL FINES,

&c. &c. &c.

TABLE I.

PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, after the death of the Party in Possession, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N. B. By this Table is seen, opposite each age, the amount which at the respective rates of interest will, with Compound Interest at the same rate, amount to the full value of the perpetuity at the death of the party, provided he lives the number of years given by the Carlisle Table of Mortality.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	**7** ꝑ Cent.	**8** ꝑ Cent.	**9** ꝑ Cent.	**10** ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
0	16 01	10 72	7 92	6 23	5 11	4 32		3 28	**0**
1	13 25	8 44	6 00	4 59	3 68	3 06	2 61	2 27	1
2	11 83	7 27	5 02	3 74	2 94	2 41	2 03	1 75	2
3	10 65	6 28	4 17	3 01	2 31	1 85	1 53	1 29	3
4	10 05	5 77	3 73	2 62	1 96	1 54	1 25	1 04	4
5	9 64	5 41	3 41	2 34	1 71	1 31	1 05	86	**5**
6	9 49	5 25	3 26	2 20	1 59	1 20	94	76	6
7	9 46	5 21	3 21	2 15	1 53	1 14	89	71	7
8	9 53	5 23	3 21	2 14	1 51	1 13	87	69	8
9	9 65	5 31	3 26	2 16	1 53	1 14	87	69	9
10	9 82	5 42	3 33	2 22	1 57	1 16	90	71	**10**
11	10 00	5 54	3 42	2 28	1 62	1 20	97	74	11
12	10 19	5 66	3 50	2 34	1 66	1 24	96	76	12
13	10 37	5 79	3 59	2 41	1 71	1 28	99	79	13
14	10 56	5 92	3 68	2 47	1 76	1 32	1 02	81	14
15	10 75	6 04	3 77	2 54	1 81	1 35	1 05	84	**15**
16	10 93	6 16	3 85	2 60	1 86	1 39	1 08	86	16
17	11 10	6 28	3 93	2 65	1 90	1 42	1 10	88	17
18	11 27	6 39	4 01	2 71	1 94	1 45	1 12	89	18
19	11 45	6 51	4 09	2 77	1 98	1 48	1 15	91	19
20	11 64	6 64	4 18	2 83	2 03	1 51	1 17	93	**20**
21	11 83	6 77	4 27	2 90	2 07	1 55	1 20	96	21
22	12 03	6 90	4 37	2 97	2 13	1 59	1 23	98	22
23	12 23	7 05	4 47	3 04	2 19	1 64	1 27	1 01	23
24	12 45	7 20	4 58	3 12	2 25	1 69	1 31	1 04	24
25	12 67	7 35	4 70	3 21	2 31	1 74	1 35	1 08	**25**
26	12 89	7 51	4 81	3 30	2 38	1 79	1 39	1 11	26
27	13 12	7 68	4 93	3 39	2 45	1 85	1 44	1 15	27
28	13 35	7 84	5 06	3 48	2 53	1 90	1 49	1 19	28
29	13 57	8 00	5 17	3 57	2 59	1 96	1 53	1 23	29

E.G. The PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, subject to the Life of a Party aged 26, at **4** ꝑ cent. is 7 51, or 7½ years' purchase; and the present worth of each £100 of NET INCOME is £751.

If calculated at **6** ꝑ cent., the present worth is 3 30, or nearly 3⅓ years' purchase; and the present worth of each £100 of NET INCOME is £330.

PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, after the death of the Party in Possession, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N. B. By this Table is seen, opposite each age, the amount which at the respective rates of interest will, with Compound Interest at the same rate, amount to the full value of the perpetuity at the death of the party, provided he lives the number of years given by the Carlisle Table of Mortality.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	**7** ꝑ Cent.	**8** ꝑ Cent.	**9** ꝑ Cent.	**10** ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
30	13 78	8 15	5 28	3 64	2 65	2 00	1 56	1 25	**30**
31	13 98	8 29	5 38	3 72	2 71	2 04	1 60	1 28	31
32	14 20	8 45	5 49	3 80	2 77	2 09	1 63	1 31	32
33	14 42	8 61	5 61	3 89	2 84	2 14	1 67	1 34	33
34	14 66	8 78	5 74	3 99	2 91	2 20	1 72	1 38	34
35	14 90	8 96	5 87	4 09	2 99	2 26	1 77	1 42	**35**
36	15 15	9 14	6 01	4 20	3 07	2 33	1 82	1 46	36
37	15 40	9 33	6 16	4 31	3 16	2 40	1 88	1 51	37
38	15 66	9 53	6 30	4 43	3 25	2 47	1 94	1 56	38
39	15 93	9 73	6 46	4 54	3 35	2 55	2 00	1 61	39
40	16 19	9 93	6 61	4 66	3 44	2 62	2 06	1 66	**40**
41	16 44	10 12	6 75	4 77	3 53	2 69	2 12	1 71	41
42	16 69	10 30	6 90	4 89	3 61	2 76	2 17	1 75	42
43	16 94	10 49	7 04	5 00	3 70	2 83	2 23	1 79	43
44	17 20	10 69	7 19	5 11	3 79	2 90	2 28	1 84	44
45	17 47	10 89	7 35	5 24	3 89	2 98	2 35	1 89	**45**
46	17 75	11 11	7 52	5 37	3 99	3 06	2 41	1 94	46
47	18 04	11 34	7 70	5 51	4 11	3 15	2 49	2 00	47
48	18 35	11 58	7 89	5 67	4 23	3 26	2 57	2 07	48
49	18 68	11 85	8 10	5 84	4 38	3 38	2 67	2 16	49
50	19 03	12 13	8 34	6 03	4 54	3 51	2 79	2 25	**50**
51	19 40	12 43	8 59	6 24	4 71	3 66	2 91	2 36	51
52	19 77	12 74	8 84	6 46	4 89	3 81	3 05	2 48	52
53	20 15	13 05	9 11	6 68	5 08	3 98	3 18	2 60	53
54	20 53	13 37	9 37	6 90	5 27	4 14	3 33	2 73	54
55	20 92	13 70	9 65	7 14	5 48	4 32	3 48	2 86	**55**
56	21 32	14 03	9 94	7 38	5 69	4 50	3 64	3 00	56
57	21 72	14 37	10 23	7 64	5 91	4 70	3 82	3 16	57
58	22 11	14 71	10 52	7 89	6 13	4 89	3 99	3 31	58
59	22 49	15 04	10 80	8 14	6 34	5 08	4 16	3 46	59

E. G. The PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, subject to the Life of a Party aged 40, at **4** ꝑ cent. is 9 93, or rather less than 10 years' purchase; and the present worth of each £100 of NET INCOME is £993.

If calculated at **5** ꝑ cent., the present worth is 6 61, or nearly 6⅝ years' purchase; and the present worth of each £100 of NET INCOME is £661.

TABLE I.—*continued.*

PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, after the death of the Party in Possession, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N. B. By this Table is seen, opposite each age, the amount which at the respective rates of interest will, with Compound Interest at the same rate, amount to the full value of the perpetuity at the death of the party, provided he lives the number of years given by the Carlisle Table of Mortality.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.	8 ⅌ Cent.	9 ⅌ Cent.	10 ⅌ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
60	22 84	15 34	11 06	8 36	6 54	5 25	4 31	3 60	**60**
61	23 15	15 60	11 29	8 56	6 71	5 40	4 44	3 71	61
62	23 46	15 86	11 51	8 75	6 88	5 55	4 57	3 83	62
63	23 76	16 13	11 74	8 95	7 06	5 70	4 71	3 95	63
64	24 09	16 41	11 98	9 16	7 24	5 87	4 85	4 08	64
65	24 41	16 69	12 23	9 38	7 44	6 04	5 01	4 21	**65**
66	24 75	16 99	12 50	9 62	7 64	6 23	5 17	4 36	66
67	25 10	17 30	12 77	9 86	7 86	6 42	5 35	4 52	67
68	25 46	17 62	13 06	10 12	8 10	6 63	5 54	4 70	68
69	25 83	17 95	13 36	10 39	8 34	6 86	5 74	4 88	69
70	26 21	18 29	13 66	10 67	8 59	7 09	5 96	5 08	**70**
71	26 59	18 64	13 98	10 96	8 86	7 34	6 19	5 29	71
72	26 96	18 97	14 29	11 24	9 12	7 58	6 41	5 50	72
73	27 29	19 27	14 56	11 49	9 36	7 79	6 61	5 69	73
74	27 58	19 54	14 81	11 72	9 57	7 99	6 79	5 86	74
75	27 82	19 76	15 01	11 90	9 74	8 14	6 93	5 99	**75**
76	28 05	19 98	15 21	12 09	9 90	8 30	7 08	6 12	76
77	28 27	20 17	15 39	12 25	10 06	8 44	7 21	6 25	77
78	28 49	20 38	15 58	12 43	10 22	8 59	7 35	6 38	78
79	28 74	20 61	15 79	12 62	10 40	8 76	7 51	6 53	79
80	28 97	20 82	15 98	12 81	10 57	8 92	7 66	6 67	**80**
81	29 21	21 05	16 20	13 01	10 76	9 10	7 83	6 83	81
82	29 43	21 25	16 39	13 19	10 93	9 26	7 98	6 97	82
83	29 66	21 46	16 59	13 38	11 11	9 43	8 14	7 12	83
84	29 88	21 67	16 79	13 56	11 29	9 60	8 30	7 27	84
85	30 10	21 88	16 99	13 76	11 47	9 77	8 47	7 43	**85**
86	30 30	22 07	17 17	13 93	11 63	9 93	8 61	7 58	86
87	30 46	22 22	17 31	14 07	11 77	10 06	8 74	7 69	87
88	30 56	22 32	17 40	14 15	11 85	10 13	8 81	7 76	88
89	30 67	22 42	17 50	14 25	11 94	10 22	8 90	7 85	89
90	30 83	22 58	17 66	14 40	12 09	10 37	9 04	7 98	**90**

E. G. The PRESENT WORTH of a REVERSIONARY FREEHOLD ESTATE, or of an ADVOWSON, subject to the Life of a Party aged 71, at 5 ⅌ cent. is 13 98, or very nearly 14 years' purchase; and the present worth of each £100 of NET INCOME is £1398.

If calculated at 6 ⅌ cent., the present worth is 10 96, or nearly 11 years' purchase; and the present worth of each £100 of NET INCOME is £1096.

TABLE II.

PRESENT WORTH of the FEE SIMPLE of a FREEHOLD ESTATE; or of an ADVOWSON and NEXT PRESENTATION to a Living, supposing that immediate Possession could be given.

Rate ℘ Cent.	NUMBER OF YEARS' PURCHASE.	PRESENT WORTH OF £100 ℘ ANNUM OF NET INCOME.		
	Years. Parts.			
At **2** ℘ Cent.	50·	or £5,000 for each £100 a year of NET INCOME.		
,, **2¼** ,,	44·444	,, 4,444	,,	,,
,, **2½** ,,	40·	,, 4,000	,,	,,
,, **2¾** ,,	36·363	,, 3,636	,,	,,
,, **3** ,,	33·333	,, 3,333	,,	,,
,, **3¼** ,,	30·	,, 3,000	,,	,,
,, **3½** ,,	28·571	,, 2,857	,,	,,
,, **3¾** ,,	27·272	,, 2,727	,,	,,
,, **4** ,,	25·	,, 2,500	,,	,,
,, **5** ,,	20·	,, 2,000	,,	,,
,, **6** ,,	16·666	,, 1,666	,,	,,
,, **7** ,,	14·285	,, 1,428	,,	,,
,, **8** ,,	12·500	,, 1,250	,,	,,

TABLE III.

TABLE showing the several times at which any PRINCIPAL doubles itself at the several rates of INTEREST stated.

RATE OF INTEREST.	YEARS AT	
	SIMPLE INTEREST.	COMPOUND INTEREST.
2	50·	35·0027 8878
2½	40·	28·0710 3453
3	33·3333 3333	23·4497 7225
3½	28·5714 2857	20·1487 9168
4	25·	17·6729 8769
4½	22·2222 2222	15·7473 0184
5	20·	14·2066 9908
6	16·6666 6667	11·8956 6105
7	14·2857 1429	10·2447 6835
8	12·5	9·0064 6834
9	11·1111 1111	8·0432 3173
10	10·	7·2725 4090

N. B. In order to demonstrate the great difference between Simple and Compound Interest, Mr. Francis Baily has calculated up to the year 1810, that if One Penny had been put out at **5** ℘ Cent. Compound Interest, at the Birth of Christ, it would have amounted to more money than could be expressed by 357 millions of globes, each equal to the Earth in magnitude, all of solid gold of standard quality, worth at the Mint price £3. 17*s*. 10½*d*. ℘ ounce. Whereas, if the Penny had been put out at the same rate of Simple Interest, the amount in the same time would have been only *seven shillings and sevenpence halfpenny.*

TABLE IV.

PRESENT WORTH of PROPERTY held on a SINGLE LIFE, as of a Party in Possession of a Living or Benefice, or the holder of a LEASE, ESTATE, or ANNUITY, according to the CARLISLE Table of Mortality.

☞ **The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.**

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
0	17 32	14 28	12 08	10 44	9 18	8 18		6 71	0
1	20 08	16 55	13 99	12 08	10 60	9 44	8 50	7 73	1
2	21 50	17 72	14 98	12 92	11 34	10 09	9 08	8 25	2
3	22 68	18 71	15 82	13 65	11 98	10 65	9 58	8 70	3
4	23 28	19 23	16 27	14 04	12 32	10 96	9 86	8 95	4
5	23 69	19 59	16 59	14 32	12 57	11 18	10 06	9 14	5
6	23 84	19 74	16 73	14 46	12 70	11 30	10 17	9 24	6
7	23 87	19 79	16 79	14 52	12 75	11 35	10 22	9 29	7
8	23 80	19 76	16 78	14 52	12 77	11 37	10 24	9 30	8
9	23 68	19 69	16 74	14 50	12 75	11 36	10 23	9 30	9
10	23 51	19 58	16 67	14 45	12 72	11 33	10 21	9 28	10
11	23 33	19 46	16 58	14 38	12 67	11 29	10 18	9 26	11
12	23 14	19 33	16 49	14 32	12 62	11 26	10 15	9 24	12
13	22 96	19 21	16 40	14 26	12 57	11 22	10 12	9 21	13
14	22 77	19 08	16 31	14 19	12 52	11 18	10 09	9 19	14
15	22 58	18 95	16 23	14 12	12 47	11 14	10 06	9 16	15
16	22 40	18 83	16 14	14 07	12 43	11 11	10 03	9 14	16
17	22 23	18 72	16 06	14 01	12 39	11 08	10 01	9 12	17
18	22 06	18 60	15 99	13 95	12 35	11 05	9 99	9 10	18
19	21 88	18 48	15 90	13 90	12 30	11 02	9 96	9 08	19
20	21 69	18 36	15 82	13 83	12 26	10 98	9 94	9 06	20
21	21 50	18 23	15 72	13 77	12 21	10 95	9 91	9 04	21
22	21 30	18 09	15 63	13 70	12 15	10 90	9 87	9 01	22
23	21 10	17 95	15 52	13 62	12 10	10 86	9 84	8 99	23
24	20 88	17 80	15 42	13 54	12 04	10 81	9 80	8 95	24
25	20 66	17 64	15 30	13 45	11 97	10 76	9 76	8 92	25
26	20 44	17 48	15 19	13 37	11 90	10 71	9 72	8 88	26
27	20 21	17 32	15 06	13 27	11 83	10 65	9 67	8 85	27
28	19 98	17 15	14 94	13 18	11 76	10 59	9 62	8 81	28
29	19 76	16 99	14 83	13 09	11 69	10 54	9 58	8 77	29

_E. G._ An ESTATE or ANNUITY held on a Life—aged 23: The PRESENT WORTH at 4 ℘ cent. is 17 95, or nearly 18 years' purchase; and the present worth of each £100 of NET INCOME is £1795.

If calculated at 7 ℘ cent., the present worth is 12 10, or rather more than 12 years' purchase; and the present worth of each £100 of NET INCOME is £1210.

PRESENT WORTH of PROPERTY held on a SINGLE LIFE, as of a Party in Possession of a Living or Benefice, or the holder of a LEASE, ESTATE, or ANNUITY, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	**7** ꝑ Cent.	**8** ꝑ Cent.	**9** ꝑ Cent.	**10** ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
30	19 55	16 85	14 72	13 02	11 63	10 50	9 55	8 75	**30**
31	19 35	16 70	14 62	12 94	11 58	10 45	9 51	8 72	31
32	19 13	16 55	14 50	12 86	11 51	10 41	9 47	8 69	32
33	18 91	16 39	14 39	12 77	11 45	10 35	9 43	8 66	33
34	18 67	16 22	14 26	12 67	11 37	10 30	9 39	8 62	34
35	18 43	16 04	14 13	12 57	11 29	10 23	9 34	8 58	**35**
36	18 18	15 85	13 99	12 46	11 21	10 17	9 28	8 53	36
37	17 93	15 66	13 84	12 35	11 12	10 10	9 23	8 49	37
38	17 67	15 47	13 69	12 24	11 03	10 02	9 17	8 44	38
39	17 40	15 27	13 54	12 12	10 94	9 95	9 11	8 39	39
40	17 14	15 07	13 39	12 00	10 84	9 87	9 04	8 34	**40**
41	16 89	14 88	13 24	11 89	10 76	9 80	8 99	8 29	41
42	16 64	14 69	13 10	11 78	10 67	9 74	8 94	8 25	42
43	16 39	14 50	12 96	11 67	10 58	9 67	8 88	8 20	43
44	16 13	14 31	12 80	11 55	10 49	9 60	8 82	8 16	44
45	15 86	14 10	12 65	11 43	10 40	9 52	8 76	8 11	**45**
46	15 58	13 89	12 48	11 29	10 29	9 43	8 70	8 05	46
47	15 29	13 66	12 30	11 15	10 18	9 34	8 62	7 99	47
48	14 98	13 42	12 11	11 00	10 05	9 24	8 54	7 92	48
49	14 65	13 15	11 89	10 82	9 91	9 12	8 44	7 84	49
50	14 30	12 87	11 66	10 63	9 75	8 99	8 32	7 74	**50**
51	13 93	12 56	11 41	10 42	9 57	8 84	8 20	7 63	51
52	13 56	12 26	11 15	10 21	9 39	8 68	8 06	7 52	52
53	13 18	11 94	10 89	9 99	9 20	8 52	7 92	7 40	53
54	12 80	11 62	10 62	9 76	9 01	8 35	7 78	7 27	54
55	12 41	11 30	10 35	9 52	8 81	8 18	7 63	7 14	**55**
56	12 01	10 96	10 06	9 28	8 59	7 99	7 46	6 99	56
57	11 61	10 62	9 77	9 03	8 37	7 80	7 29	6 84	57
58	11 22	10 28	9 48	8 77	8 15	7 60	7 12	6 69	58
59	10 84	9 96	9 20	8 53	7 94	7 42	6 95	6 54	59

E.G. A LIVING, ESTATE, or ANNUITY held on a Life—aged 30: The PRESENT WORTH at **5** ꝑ cent. is 14 72, or nearly 14¾ years' purchase; and the present worth of each £100 of NET INCOME is £1472.

If calculated at **6** ꝑ cent., the present worth is 13 02, or 13 years' purchase; and the present worth of each £100 of NET INCOME is £1302.

TABLE IV.—*continued.*

PRESENT WORTH of PROPERTY held on a SINGLE LIFE, as of a Party in Possession of a Living or Benefice, or the holder of a LEASE, ESTATE, or ANNUITY, according to the **CARLISLE** Table of Mortality.

☞ **The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.**

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Age of Party in Possession.
	3 ⅌ Cent.	**4** ⅌ Cent.	**5** ⅌ Cent.	**6** ⅌ Cent.	**7** ⅌ Cent.	**8** ⅌ Cent.	**9** ⅌ Cent.	**10** ⅌ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
60	10 49	9 66	8 94	8 30	7 74	7 24	6 80	6 40	**60**
61	10 18	9 40	8 71	8 11	7 57	7 09	6 67	6 28	61
62	9 87	9 13	8 49	7 91	7 40	6 95	6 54	6 17	62
63	9 57	8 87	8 26	7 71	7 23	6 79	6 40	6 05	63
64	9 24	8 59	8 01	7 50	7 04	6 63	6 26	5 92	64
65	8 92	8 31	7 76	7 28	6 85	6 46	6 10	5 78	**65**
66	8 58	8 01	7 50	7 05	6 64	6 27	5 94	5 63	66
67	8 23	7 70	7 23	6 80	6 42	6 07	5 76	5 47	67
68	7 87	7 38	6 94	6 54	6 19	5 86	5 57	5 30	68
69	7 50	7 05	6 64	6 28	5 94	5 64	5 37	5 11	69
70	7 12	6 71	6 33	6 00	5 69	5 41	5 15	4 92	**70**
71	6 74	6 36	6 01	5 70	5 42	5 16	4 92	4 70	71
72	6 37	6 02	5 71	5 42	5 16	4 92	4 70	4 50	72
73	6 04	5 72	5 43	5 17	4 93	4 70	4 50	4 31	73
74	5 75	5 46	5 19	4 94	4 72	4 51	4 32	4 14	74
75	5 51	5 24	4 99	4 76	4 55	4 35	4 17	4 01	**75**
76	5 28	5 02	4 79	4 58	4 38	4 20	4 03	3 87	76
77	5 06	4 82	4 61	4 41	4 23	4 05	3 90	3 75	77
78	4 84	4 62	4 42	4 24	4 07	3 91	3 76	3 62	78
79	4 59	4 39	4 21	4 04	3 88	3 73	3 60	3 47	79
80	4 36	4 18	4 01	3 86	3 71	3 58	3 45	3 33	**80**
81	4 12	3 95	3 80	3 65	3 52	3 40	3 28	3 17	81
82	3 90	3 74	3 60	3 47	3 35	3 24	3 13	3 03	82
83	3 67	3 53	3 40	3 28	3 17	3 07	2 97	2 88	83
84	3 45	3 33	3 21	3 10	3 00	2 90	2 81	2 73	84
85	3 23	3 11	3 01	2 91	2 81	2 73	2 64	2 57	**85**
86	3 03	2 93	2 83	2 74	2 65	2 57	2 49	2 42	86
87	2 87	2 77	2 68	2 60	2 52	2 44	2 37	2 30	87
88	2 77	2 68	2 60	2 51	2 44	2 36	2 30	2 23	88
89	2 66	2 58	2 49	2 42	2 34	2 27	2 21	2 15	89
90	2 50	2 41	2 34	2 26	2 20	2 13	2 07	2 01	**90**

E.G. A LIVING, LEASE, ESTATE, or ANNUITY held on a Life—aged 66: The PRESENT WORTH at **4** ⅌ cent. is 8 01, or 8 years' purchase; and the present worth of each £100 of NET INCOME is £801.

If calculated at **5** ⅌ cent., the present worth is 7 50, or 7½ years' purchase; and the present worth of each £100 of NET INCOME is £750.

NEW TABLE IV.

PRESENT WORTH of PROPERTY held on a SINGLE LIFE, as of a Party in possession of a Living or Benefice, or the holder of a LEASE, ESTATE, or ANNUITY, according to the **CARLISLE** Table of Mortality;

Supposing the Purchaser thereof to take out of the Annuity £4 ℘ cent., £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per Annum, as available Interest on his PURCHASE MONEY, or CAPITAL advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ℘ cent. thereof, in order to replace the Purchase Money or Capital.*

☞ The Answers show the value in Pounds of each £100 of NET INCOME, as well as the number of years' purchase.

Age of Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR. The available Interest on Capital, if the re-investments be made at **3** per Cent. **4** ℘ Cent.				Age of Party in Possession.
		5 ℘ Cent.	**6** ℘ Cent.	**7** ℘ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
0	14 77	12 87	11 40	10 23	**0**
1	16 72	14 33	12 53	11 13	1
2	17 70	15 04	13 07	11 56	2
3	18 48	15 60	13 49	11 89	3
4	18 90	15 90	13 72	12 06	4
5	19 16	16 08	13 85	12 16	**5**
6	19 27	16 15	13 91	12 21	6
7	19 27	16 15	13 91	12 21	7
8	19 23	16 13	13 89	12 19	8
9	19 16	16 08	13 85	12 16	9
10	19 05	16 00	13 79	12 12	**10**
11	18 90	15 90	13 72	12 06	11
12	18 80	15 82	13 66	12 02	12
13	18 69	15 75	13 60	11 98	13
14	18 55	15 65	13 53	11 92	14
15	18 42	15 55	13 46	11 86	**15**
16	18 31	15 48	13 40	11 82	16
17	18 18	15 38	13 33	11 76	17
18	18 08	15 31	13 28	11 72	18
19	17 95	15 22	13 21	11 67	19

E.G. The PRESENT WORTH of an ANNUITY on a Life aged 17, if the Purchaser is to make **6** ℘ cent. on the purchase-money, and to re-invest the surplus at **3** ℘ cent. to replace capital, is 13 33 or 13⅓ years' purchase of the NET INCOME, and the present worth of each £100 of NET INCOME is £1333.

If it be required to make **7** ℘ cent. on the purchase-money, and re-invest the surplus at **3** ℘ cent., the present worth is 11 76 or 11¾ years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £1176.

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* See NOTE (No. 1) ANNUITIES ON LIVES.

NEW TABLE IV.—(*continued.*)

Present Worth of **Property** held on a **Single Life**, as of a Party in possession of a Living or Benefice, or the holder of a **Lease**, **Estate**, or **Annuity**, according to the **carlisle** Table of Mortality;

Supposing the Purchaser thereof to take out of the Annuity £4 ℘ cent., £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per Annum, as available Interest on his **Purchase Money**, or **Capital** advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such interest, so as to make 3 ℘ cent. thereof, in order to replace the Purchase Money or Capital.

☞ **The Answers show the value in Pounds of each £100 net income, as well as the number of years' purchase.**

Age of Party in Possession.	Years' Purchase, or Pounds for each £100 a Year.								Age of Party in possession.
	The available Interest on Capital, if the re-investments be made at 3 per Cent.								
	4 ℘ Cent.		5 ℘ Cent.		6 ℘ Cent.		7 ℘ Cent.		
	Years.	Parts.	Years.	Parts.	Years.	Parts.	Years.	Parts.	
20	17	82	15	13	13	14	11	61	**20**
21	17	70	15	04	13	07	11	56	21
22	17	57	14	95	13	00	11	51	22
23	17	42	14	84	12	92	11	44	23
24	17	27	14	73	12	84	11	38	24
25	17	12	14	62	12	75	11	31	**25**
26	16	98	14	51	12	67	11	25	26
27	16	81	14	39	12	58	11	17	27
28	16	67	14	28	12	50	11	11	28
29	16	50	14	16	12	41	11	04	29
30	16	37	14	06	12	33	10	98	**30**
31	16	21	13	95	12	24	10	90	31
32	16	05	13	83	12	15	10	83	32
33	15	90	13	72	12	06	10	76	33
34	15	72	13	59	11	96	10	68	34
35	15	58	13	48	11	88	10	61	**35**
36	15	38	13	33	11	76	10	53	36
37	15	20	13	19	11	65	10	44	37
38	15	01	13	05	11	55	10	35	38
39	14	81	12	90	11	43	10	26	39
40	14	64	12	77	11	32	10	17	**40**
41	14	45	12	63	11	21	10	08	41
42	14	26	12	48	11	10	9	99	42
43	14	08	12	34	10	99	9	90	43
44	13	89	12	19	10	87	9	80	44
45	13	70	12	05	10	75	9	71	**45**
46	13	48	11	88	10	61	9	60	46
47	13	26	11	71	10	48	9	49	47
48	13	04	11	53	10	34	9	37	48
49	12	79	11	34	10	18	9	24	49

NEW TABLE IV.—(*continued*).

Present Worth of Property held on a Single Life, as of a Party in possession of a Living or Benefice, or the holder of a Lease, Estate, or Annuity, according to the **Carlisle** Table of Mortality;

Supposing the purchaser thereof to take out of the Annuity £4 ⅌ cent., £5 ⅌ cent., or £6 ⅌ cent., or £7 ⅌ cent. per Annum, as available Interest on his Purchase Money, or Capital advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ⅌ cent. thereof, in order to replace the Purchase Money or Capital.

☞ The Answers show the value in Pounds of each £100 of net income, as well as the number of years' purchase.

Age of Party in Possession.	Years' Purchase, or Pounds for each £100 a Year.				Age of Party in Possession.
	The available Interest on Capital, if the re-investments be made at 3 per Cent.				
	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
50	12 51	11 12	10 01	9 10	**50**
51	12 22	10 89	9 82	8 94	51
52	11 95	10 67	9 64	8 79	52
53	11 64	10 43	9 44	8 63	53
54	11 35	10 19	9 25	8 47	54
55	11 04	9 94	9 04	8 29	**55**
56	10 72	9 68	8 83	8 11	56
57	10 40	9 42	8 61	7 93	57
58	10 09	9 16	8 40	7 74	58
59	9 78	8 91	8 18	7 56	59
60	9 50	8 67	7 98	7 39	**60**
61	9 24	8 46	7 80	7 23	61
62	8 98	8 24	7 62	7 08	62
63	8 73	8 03	7 43	6 92	63
64	8 47	7 81	7 24	6 75	64
65	8 19	7 57	7 04	6 57	**65**
66	7 90	7 33	6 82	6 39	66
67	7 60	7 07	6 60	6 19	67
68	7 29	6 80	6 36	5 98	68
69	6 98	6 52	6 12	5 77	69
70	6 65	6 23	5 87	5 54	**70**

E G. The Present Worth of an Annuity on a Life aged 64, if the Purchaser is to make **6** ⅌ cent. on the purchase-money, and to re-invest the surplus at **3** ⅌ cent. to replace capital, is 7 24 or 7¼ years' purchase of the net income, and the present worth of each £100 of net income is £724.

If it be required to make **7** ⅌ cent. on the purchase-money, and re-invest the surplus at **3** ⅌ cent., the present worth is 6 75 or 6¾ years' purchase of the net income, and the present worth of each £100 of net income is £675.

TABLE V.

PRESENT WORTH OF PROPERTY held on TWO JOINT LIVES, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Ages of the Lives.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.			
	3 ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
5 5	19 81	16 80	14 51	12 72
10	19 87	16 91	14 65	12 87
15	19 29	16 49	14 33	12 63
20	18 72	16 10	14 05	12 42
25	18 01	15 58	13 67	12 13
30	17 22	15 00	13 23	11 80
35	16 39	14 39	12 77	11 45
40	15 39	13 63	12 19	10 98
45	14 38	12 86	11 59	10 52
50	13 09	11 83	10 76	9 85
55	11 46	10 47	9 62	8 88
60	9 77	9 02	8 37	7 89
65	8 37	7 81	7 31	6 87
70	6 74	6 35	6 01	5 69
75	5 24	4 99	4 75	4 54
80	4 17	4 00	3 84	3 70
85	3 10	2 99	2 89	2 80
90	2 40	2 33		
10 10	19 96	17 05	14 80	13 03
15	19 41	16 64	14 50	12 80
20	18 87	16 26	14 22	12 59
25	18 19	15 77	13 85	12 31
30	17 41	15 19	13 41	11 97
35	16 59	14 59	12 96	11 63
40	15 60	13 83	12 38	11 17
45	14 60	13 06	11 78	10 70
50	13 31	12 03	10 95	10 03
55	11 67	10 66	9 80	9 05
60	9 96	9 19	8 53	7 94
65	8 54	7 97	7 46	7 01
70	6 87	6 48	6 13	5 81
75	5 35	5 09	4 85	4 63
80	4 26	4 09	3 92	3 77
85	3 17	3 05	2 95	2 86
90	2 45	2 37	2 30	2 23
15 15	18 91	16 27	14 21	12 58
20	18 42	15 92	13 96	12 38
25	17 79	15 46	13 61	12 11
30	17 06	14 92	13 19	11 79
35	16 29	14 35	12 76	11 46
40	15 35	13 62	12 20	11 02
45	14 38	12 88	11 63	10 57
50	13 13	11 88	10 82	9 91
15 55	11 53	10 54	9 69	8 95
60	9 85	9 10	8 44	7 87
65	8 46	7 90	7 40	6 95
70	6 82	6 43	6 08	5 77
75	5 31	5 06	4 82	4 60
80	4 23	4 06	3 90	3 75
85	3 15	3 04	2 94	2 84
90	2 44	2 36	2 29	2 22
20 20	17 99	15 61	13 72	12 20
25	17 42	15 18	13 40	11 95
30	16 75	14 68	13 01	11 64
35	16 03	14 14	12 60	11 33
40	15 13	13 45	12 06	10 90
45	14 21	12 74	11 51	10 47
50	12 99	11 77	10 73	9 83
55	11 43	10 46	9 62	8 89
60	9 78	9 04	8 39	7 82
65	8 41	7 85	7 36	6 92
70	6 79	6 41	6 06	5 74
75	5 30	5 04	4 81	4 59
80	4 22	4 05	3 89	3 74
85	3 14	3 03	2 93	2 83
90	2 44	2 36	2 28	2 21
25 25	16 91	14 80	13 10	11 72
30	16 31	14 34	12 74	11 43
35	15 66	13 85	12 36	11 14
40	14 82	13 20	11 85	10 73
45	13 95	12 53	11 33	10 32
50	12 79	11 60	10 58	9 71
55	11 27	10 32	9 50	8 79
60	9 67	8 94	8 30	7 74
65	8 33	7 78	7 29	6 86
70	6 73	6 36	6 02	5 70
75	5 26	5 01	4 78	4 56
80	4 20	4 03	3 87	3 73
85	3 13	3 02	2 92	2 82
90	2 43	2 35	2 27	2 20
30 30	15 78	13 93	12 42	11 17
35	15 21	13 49	12 08	10 90
40	14 45	12 90	11 61	10 52
45	13 65	12 28	11 12	10 14
50	12 55	11 39	10 40	9 55

TABLE V.—*continued.*

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.			
	3 ⅌ Cent.	**4** ⅌ Cent.	**5** ⅌ Cent.	**6** ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
30 55	11 09	10 16	9 36	8 66
60	9 53	8 82	8 19	7 64
65	8 22	7 69	7 21	6 78
70	6 66	6 29	5 95	5 65
75	5 21	4 96	4 73	4 52
80	4 17	4 00	3 84	3 70
85	3 11	3 00	2 90	2 80
90	2 41	2 33	2 26	2 19
35 35	14 72	13 11	11 78	10 66
40	14 05	12 58	11 35	10 32
45	13 33	12 02	10 91	9 97
50	12 31	11 19	10 24	9 41
55	10 92	10 02	9 24	8 56
60	9 41	8 71	8 10	7 56
65	8 14	7 61	7 14	6 72
70	6 61	6 24	5 91	5 61
75	5 18	4 93	4 70	4 50
80	4 15	3 98	3 82	3 68
85	3 09	2 99	2 89	2 80
90	2 40	2 32	2 25	2 18
40 40	13 48	12 12	10 98	10 01
45	12 87	11 64	10 60	9 70
50	11 95	10 89	9 98	9 20
55	10 66	9 79	9 04	8 39
60	9 22	8 55	7 96	7 43
65	8 00	7 49	7 03	6 62
70	6 51	6 16	5 83	5 53
75	5 11	4 87	4 65	4 44
80	4 10	3 94	3 78	3 64
85	3 06	2 96	2 86	2 77
90	2 38	2 30	2 23	2 16
45 45	12 37	11 24	10 28	9 44
50	11 58	10 59	9 74	8 99
55	10 40	9 58	8 87	8 24
60	9 06	8 42	7 84	7 34
65	7 91	7 41	6 96	6 56
70	6 46	6 11	5 79	5 50
75	5 09	4 85	4 63	4 43
80	4 09	3 92	3 77	3 63
85	3 05	2 95	2 85	2 76
90	2 37	2 30	2 23	2 16
50 50	10 94	10 06	9 29	8 62
55	9 92	9 18	8 53	7 95
60	8 73	8 13	7 60	7 13
50 65	7 69	7 22	6 80	6 42
70	6 34	6 00	5 69	5 41
75	5 02	4 79	4 58	4 38
80	4 05	3 89	3 74	3 61
85	3 04	2 94	2 84	2 75
90	2 36	2 29	2 22	2 15
55 55	9 10	8 46	7 90	7 40
60	8 10	7 57	7 10	6 68
65	7 22	6 80	6 42	6 07
70	6 02	5 71	5 43	5 17
75	4 81	4 60	4 40	4 22
80	3 92	3 77	3 63	3 50
85	2 96	2 86	2 77	2 68
90	2 31	2 23	2 17	2 10
60 60	7 29	6 85	6 45	6 10
65	6 59	6 22	5 89	5 59
70	5 56	5 29	5 04	4 81
75	4 50	4 30	4 12	3 96
80	3 69	3 56	3 43	3 31
85	2 81	2 72	2 64	2 56
90	2 20	2 13	2 07	2 01
65 65	6 05	5 74	5 45	5 20
70	5 19	4 95	4 74	4 53
75	4 26	4 08	3 92	3 77
80	3 54	3 41	3 30	3 18
85	2 72	2 63	2 55	2 48
90	2 13	2 07	2 01	1 95
70 70	4 55	4 37	4 19	4 03
75	3 80	3 66	3 53	3 40
80	3 23	3 12	3 02	2 92
85	2 52	2 45	2 38	2 31
90	1 99	1 93	1 88	1 83
75 75	3 23	3 12	3 01	2 91
80	2 79	2 70	2 62	2 54
85	2 22	2 16	2 10	2 04
90	1 76	1 71	1 67	1 63
80 80	2 46	2 39	2 32	2 26
85	1 99	1 94	1 89	1 85
90	1 59	1 55	1 51	1 48
85 85	1 66	1 62	1 58	1 55
90	1 33	1 31	1 28	1 25
90 90	1 09	1 06	1 04	1 02

E.G. A Lease or Annuity held on Two Joint Lives of 30 and 40, determinable on the death of either: the present worth at **4** ⅌ cent. is 12 90, or very nearly 13 years' purchase of the net income; and the present worth of each £100 of net income is £1290.

If calculated at **6** ⅌ cent., the present worth is 10 52, or 10½ years' purchase; and *the present worth of each* £100 of net income is £1052.

TABLE VI.

Present Worth of Property, either Lease, Estate, or Annuity, held on the longest of Two Lives, according to the Carlisle Table of Mortality

☞ **The Answers show the value of each £100 of net income, as well as the number of years' purchase.**

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his capital, provided he can re-invest the surplus income, beyond the interest on the purchase-money, at the same rate of interest.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.			
	3 ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
5 5	27 57	22 38	18 67	15 93
10	27 33	22 26	18 61	15 90
15	26 98	22 05	18 48	15 82
20	26 66	21 86	18 36	15 73
25	26 34	21 65	18 22	15 64
30	26 03	21 44	18 08	15 55
35	25 74	21 24	17 94	15 45
40	25 44	21 03	17 79	15 34
45	25 17	20 84	17 64	15 23
50	24 90	20 63	17 49	15 10
55	24 63	20 42	17 31	14 97
60	24 41	20 23	17 16	14 74
65	24 24	20 08	17 04	14 73
70	24 08	19 95	16 92	14 63
75	23 96	19 84	16 82	14 54
80	23 88	19 77	16 76	14 48
85	23 82	19 71	16 70	14 43
90	23 79	19 68		
10 10	27 06	22 12	18 53	15 86
15	26 68	21 89	18 39	15 77
20	26 33	21 68	18 26	15 69
25	25 99	21 46	18 12	15 59
30	25 66	21 24	17 97	15 49
35	25 35	21 03	17 83	15 39
40	25 05	20 82	17 68	15 28
45	24 77	20 62	17 53	15 17
50	24 50	20 42	17 37	15 05
55	24 25	20 22	17 22	14 92
60	24 04	20 05	17 08	14 81
65	23 89	19 92	16 97	14 72
70	23 76	19 81	16 87	14 63
75	23 67	19 73	16 80	14 57
80	23 61	19 68	16 76	14 53
85	23 57	19 64	16 72	14 50
90	23 56	19 62	16 71	14 48
15 15	26 25	21 64	18 24	15 67
20	25 85	21 39	18 08	15 57
25	25 45	21 14	17 92	15 47
30	25 07	20 89	17 75	15 35
35	24 72	20 65	17 59	15 24
40	24 38	20 40	17 41	15 11
45	24 06	20 17	17 24	14 98
15 50	23 75	19 94	17 06	14 84
55	23 46	19 71	16 88	14 70
60	23 22	19 51	16 72	14 56
65	23 04	19 36	16 59	14 46
70	22 89	19 23	16 48	14 36
75	22 78	19 14	16 39	14 28
80	22 71	19 07	16 34	14 23
85	22 66	19 03	16 30	14 19
90	22 64	19 01	16 28	14 17
20 20	25 39	21 11	17 91	15 46
25	24 94	20 82	17 72	15 34
30	24 50	20 54	17 53	15 21
35	24 09	20 26	17 34	15 07
40	23 70	19 98	17 14	14 93
45	23 35	19 72	16 95	14 79
50	23 00	19 46	16 75	14 63
55	22 67	19 20	16 54	14 47
60	22 40	18 98	16 36	14 32
65	22 20	18 81	16 22	14 20
70	22 03	18 66	16 09	14 09
75	21 91	18 56	16 00	14 00
80	21 83	18 49	15 94	13 95
85	21 78	18 44	15 89	13 91
90	21 75	18 42	15 87	13 89
25 25	24 41	20 49	17 50	15 19
30	23 91	20 16	17 28	15 04
35	23 44	19 84	17 06	14 89
40	22 98	19 51	16 84	14 72
45	22 57	19 22	16 61	14 56
50	22 17	18 91	16 38	14 38
55	21 80	18 62	16 14	14 19
60	21 49	18 36	15 94	14 01
65	21 25	18 17	15 77	13 88
70	21 05	17 99	15 62	13 75
75	20 91	17 87	15 51	13 65
80	20 83	17 79	15 44	13 59
85	20 76	17 74	15 39	13 54
90	20 73	17 71	15 36	13 51
30 30	23 33	19 77	17 03	14 87
35	22 78	19 40	16 77	14 69
40	22 25	19 03	16 50	14 4[illegible]

TABLE VI.—*continued.*

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.			
	3 ⅌ Cent.	**4** ⅌ Cent.	**5** ⅌ Cent.	**6** ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
30 45	21 77	18 68	16 25	14 30
50	21 31	18 33	15 98	14 10
55	20 87	17 99	15 70	13 88
60	20 52	17 69	15 47	13 68
65	20 25	17 47	15 28	13 52
70	20 02	17 27	15 10	13 37
75	19 85	17 13	14 98	13 25
80	19 75	17 03	14 89	13 18
85	19 68	16 97	14 83	13 12
90	19 64	16 93	14 80	13 09
35 35	22 14	18 97	16 47	14 48
40	21 53	18 53	16 16	14 25
45	20 96	18 12	15 86	14 03
50	20 42	17 71	15 55	13 79
55	19 92	17 32	15 23	13 54
60	19 51	16 99	14 96	13 31
65	19 21	16 73	14 75	13 13
70	18 95	16 51	14 55	12 96
75	18 76	16 35	14 41	12 83
80	18 65	16 24	14 31	12 75
85	18 57	16 17	14 24	12 68
90	18 53	16 13	14 21	12 65
40 40	20 80	18 02	15 79	13 99
45	20 14	17 53	15 44	13 72
50	19 49	17 05	15 06	13 43
55	18 89	16 57	14 69	13 14
60	18 41	16 18	14 37	12 87
65	18 05	15 89	14 12	12 66
70	17 75	15 62	13 89	12 46
75	17 54	15 44	13 73	12 31
80	17 40	15 32	13 62	12 22
85	17 31	15 23	13 53	12 14
90	17 26	15 18	13 49	12 10
45 45	19 35	16 96	15 02	13 41
50	18 58	16 38	14 57	13 06
55	17 87	15 82	14 12	12 71
60	17 29	15 35	13 74	12 39
65	16 87	15 00	13 45	12 15
70	16 52	14 70	13 19	11 92
75	16 28	14 49	13 01	11 76
80	16 14	14 36	12 89	11 65
85	16 03	14 27	12 80	11 57
90	15 99	14 22	12 76	11 53
50 50	17 66	15 68	14 03	12 64
55	16 79	14 99	13 48	12 20
50 60	16 06	14 40	13 00	11 81
65	15 53	13 95	12 62	11 49
70	15 09	13 58	12 30	11 21
75	14 79	13 32	12 07	11 01
80	14 61	13 16	11 93	10 88
85	14 49	13 04	11 83	10 79
90	14 44	12 99	11 78	10 74
55 55	15 71	14 13	12 79	11 65
60	14 80	13 39	12 18	11 14
65	14 10	12 81	11 69	10 73
70	13 51	12 29	11 45	10 35
75	13 11	11 94	10 93	10 07
80	12 85	11 71	10 73	9 88
85	12 67	11 55	10 58	9 75
90	12 60	11 48	10 52	9 68
60 60	13 69	12 47	11 42	10 51
65	12 82	11 74	10 81	9 99
70	12 05	11 08	10 23	9 48
75	11 50	10 60	9 80	9 10
80	11 16	10 29	9 52	8 85
85	10 91	10 05	9 31	8 65
90	10 79	9 95	9 21	8 56
65 65	11 79	10 87	10 07	9 36
70	10 85	10 06	9 36	8 74
75	10 17	9 46	8 83	8 27
80	9 74	9 07	8 48	7 95
85	9 43	8 79	8 22	7 71
90	9 28	8 65	8 09	7 59
70 70	9 69	9 05	8 48	7 97
75	8 83	8 29	7 80	7 35
80	8 26	7 77	7 33	6 93
85	7 83	7 37	6 96	6 59
90	7 63	7 19	6 79	6 43
75 75	7 79	7 36	6 96	6 60
80	7 09	6 72	6 38	6 07
85	6 52	6 20	5 90	5 62
90	6 25	5 94	5 66	5 39
80 80	6 27	5 97	5 70	5 45
85	5 60	5 35	5 13	4 92
90	5 27	5 05	4 84	4 64
85 85	4 80	4 61	4 43	4 27
90	4 39	4 22	4 07	3 92
90 90	3 91	3 76	3 63	3 51

E.G. A Lease, Estate, or Annuity, held on the longest of Two Lives 65 and 70, that is, so long as either shall exist: the present worth at **4** ⅌ cent. is 10 06, or 10 years' purchase of the net income; and the present worth of each £100 of net income is £1006.

If calculated at **6** ⅌ cent., the present worth is 8 74, or 8¾ years' purchase; and the present worth of each £100 of net income is £874.

NEW TABLE VI.

Present Worth of Property, either Lease, Estate, or Annuity, held on the Longest of Two Lives, according to the **CARLISLE** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ⅌ cent., £6 ⅌ cent., or £7 ⅌ cent. per Annum, as available Interest on his Purchase Money, or Capital advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ⅌ cent. thereof, in order to replace the Purchase Money or Capital.

☞ The answers show the value in Pounds of each £100 of net income, as well as the number of years' purchase.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.						
	The available Interest on Capital, if the re-investments be made at 3 ⅌ Cent.			Ages of the Lives.	The available Interest on Capital, if the re-investment be made at 3 ⅌ Cent.		
	5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.		5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.		Years. Parts.	Years. Parts.	Years. Parts.
5 5	17 76	15 08	13 11	10 10	17 57	14 95	13 00
10	17 67	15 01	13 05	15	17 39	14 81	12 90
15	17 51	14 90	12 97	20	17 24	14 70	12 82
20	17 39	14 81	12 90	25	17 09	14 60	12 74
25	17 24	14 70	12 82	30	16 95	14 49	12 66
30	17 12	14 62	12 75	35	16 83	14 41	12 59
35	17 01	14 53	12 69	40	16 69	14 31	12 51
40	16 86	14 43	12 61	45	16 56	14 20	12 44
45	16 75	14 35	12 55	50	16 45	14 12	12 38
50	16 61	14 24	12 47	55	16 34	14 04	12 31
55	16 50	14 16	12 41	60	16 23	13 97	12 25
60	16 39	14 08	12 34	65	16 18	13 93	12 22
65	16 34	14 04	12 31	70	16 10	13 87	12 18
70	16 26	13 99	12 27	75	16 08	13 85	12 16
75	16 21	13 95	12 24	80	16 05	13 83	12 15
80	16 15	13 91	12 21	85	16 02	13 81	12 13
85	16 13	13 89	12 19	90	16 02	13 81	12 13
90	16 13	13 89	12 19				

E.G. The Present Worth of an Annuity, held on the Longest of Two Lives 10 and 30—that is, so long as either shall exist—if the Purchaser is to make 6 ⅌ cent. on the purchase-money, and re-invest the surplus at 3 ⅌ cent. to replace capital, is 14 49 or 14½ years' purchase of the net income, and the present worth of each £100 of net income is £1449.

If it be required to make 7 ⅌ cent. on the purchase-money, and re-invest the surplus at 3 per cent., the present worth is 12 66 or 12⅔ years' purchase of the net income, and the present worth of each £100 of net income is £1266.

NEW TABLE VI.—(*continued*).

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of TWO LIVES, according to the **CARLISLE** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per Annum, as available Interest on his PURCHASE MONEY, or CAPITAL advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such interest, so as to make 3 ℘ cent. thereof, in order to replace the Purchase Money or Capital.

☞ The Answers show the value in Pounds of each £100 of NET INCOME, as well as the number of years' purchase.

Ages of the Lives.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.					
	The available interest on Capital, if the re-investments be made at **3** ℘ Cent.					
	5 ℘ Cent.		**6** ℘ Cent.		**7** ℘ Cent.	
	Years.	Parts.	Years.	Parts.	Years.	Parts.
15 15	17	21	14	68	12	80
20	17	03	14	56	12	71
25	16	86	14	43	12	61
30	16	69	14	31	12	51
35	16	56	14	20	12	44
40	16	39	14	08	12	34
45	16	23	13	97	12	25
50	16	10	13	87	12	18
55	15	97	13	77	12	11
60	15	85	13	68	12	03
65	15	77	13	62	11	99
70	15	70	13	57	11	95
75	15	65	13	53	11	92
80	15	62	13	51	11	90
85	15	60	13	49	11	89
90	15	58	13	48	11	88
20 20	16	83	14	41	12	59
25	16	64	14	26	12	48
30	16	45	14	12	12	38
35	16	26	13	99	12	27
40	16	08	13	85	12	16
45	15	92	13	74	12	08
50	15	75	13	60	11	98
55	15	60	13	49	11	89
60	15	48	13	40	11	82
65	15	38	13	33	11	76
70	15	29	13	26	11	71
75	15	24	13	23	11	68
80	15	20	13	19	11	65
85	15	17	13	17	11	64
90	15	15	13	16	11	63
25 25	16	39	14	08	12	34
30	16	18	13	93	12	22
25 35	15	95	13	75	12	09
40	15	75	13	60	11	98
45	15	55	13	46	11	86
50	15	36	13	31	11	75
55	15	17	13	17	11	64
60	15	04	13	07	11	56
65	14	92	12	99	11	49
70	14	81	12	90	11	43
75	14	75	12	85	11	39
80	14	70	12	82	11	36
85	14	66	12	79	11	34
90	14	66	12	79	11	34
3030	15	90	13	72	12	06
35	15	65	13	53	11	92
40	15	41	13	35	11	78
45	15	17	13	17	11	64
50	14	95	13	00	11	51
55	14	73	12	84	11	38
60	14	56	12	71	11	27
65	14	41	12	59	11	18
70	14	31	12	51	11	12
75	14	20	12	44	11	06
80	14	16	12	41	11	04
85	14	12	12	38	11	01
90	14	10	12	36	11	00
3535	15	34	13	30	11	74
40	15	06	13	09	11	57
45	14	77	12	87	11	40
50	14	49	12	66	11	23
55	14	24	12	47	11	09
60	14	04	12	31	10	96
65	13	89	12	19	10	87
70	13	74	12	08	10	77

NEW TABLE VI.—(*continued*).

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of TWO LIVES, according to the **CARLISLE** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ℔ cent., £6 ℔ cent., or £7 ℔ cent. per Annum, as available Interest on his PURCHASE MONEY, or CAPITAL advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ℔ cent. thereof, in order to replace the Purchase Money or Capital.

☞ **The Answers show the value in Pounds of each £100 of NET INCOME, as well as the number of years' purchase.**

YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.

Ages of the Lives.	The available Interest on Capital, if the re-investments be made at 3 ℔ Cent.					
	5 ℔ Cent.		6 ℔ Cent.		7 ℔ Cent.	
	Years.	Parts.	Years.	Parts.	Years.	Parts.
35 75	13	64	12	00	10	72
80	13	59	11	96	10	68
85	13	55	11	93	10	66
90	13	51	11	90	10	64
40 40	14	68	12	80	11	35
45	14	37	12	56	11	16
50	14	02	12	30	10	95
55	13	72	12	06	10	76
60	13	46	11	86	10	60
65	13	26	11	71	10	48
70	13	11	11	59	10	38
75	12	99	11	49	10	31
80	12	90	11	43	10	26
85	12	85	11	39	10	22
90	12	84	11	38	10	21
45 45	13	95	12	24	10	90
50	13	55	11	93	10	66
55	13	17	11	64	10	43
60	12	85	11	39	10	22
65	12	61	11	20	10	07
70	12	42	11	05	9	95
75	12	28	10	94	9	86
80	12	21	10	88	9	81
85	12	13	10	82	9	76
90	12	12	10	81	9	76
50 50	13	05	11	55	10	35
55	12	58	11	17	10	05
60	12	15	10	83	9	77
65	11	85	10	59	9	58
70	11	59	10	38	9	41
75	11	41	10	24	9	29
80	11	31	10	16	9	22

Ages of the Lives.	The available Interest on Capital, if the re-investments be made at 3 ℔ Cent.					
	5 ℔ Cent.		6 ℔ Cent.		7 ℔ Cent.	
	Years.	Parts.	Years.	Parts.	Years.	Parts.
50 85	11	23	10	10	9	17
90	11	21	10	08	9	16
55 55	11	96	10	68	9	65
60	11	41	10	24	9	29
65	11	00	9	91	9	02
70	10	64	9	61	8	77
75	10	38	9	41	8	60
80	10	22	9	28	8	49
85	10	11	9	18	8	41
90	10	06	9	14	8	37
60 60	10	75	9	71	8	85
65	10	20	9	26	8	47
70	9	71	8	85	8	13
75	9	35	8	55	7	88
80	9	12	8	36	7	72
85	8	96	8	22	7	60
90	8	87	8	15	7	53
65 65	9	54	8	71	8	01
70	8	91	8	18	7	56
75	8	45	7	79	7	23
80	8	15	7	53	7	01
85	7	94	7	35	6	85
90	7	83	7	26	6	77
70 70	8	12	7	51	6	98
75	7	51	6	98	6	53
80	7	09	6	62	6	21
85	6	77	6	34	5	96
90	6	62	6	21	5	84
75 75	6	74	6	31	5	94
80	6	21	5	85	5	52
85	5	77	6	45	5	17
90	5	55	5	26	5	00

TABLE VII.

Present Worth of Property, either Lease, Estate, or Annuity, held on the Longest of Three Lives, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.				Ages of the Lives.
	3 ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
10 10 10	28 29	22 88	19 01	16 17	**10 10 10**
20	27 88	22 66	18 89	16 10	20
30	27 56	22 46	18 77	16 03	30
40	27 33	22 32	18 66	15 94	40
50	27 15	22 18	18 55	15 86	50
60	27 06	22 11	18 51	15 83	60
70	27 02	22 08	18 51	15 83	70
10 15 15	27 84	22 65	18 88	16 10	**10 15 15**
25	27 42	22 40	18 73	16 00	25
35	27 12	22 21	18 62	15 93	35
45	26 92	22 04	18 50	15 85	45
55	26 73	21 92	18 39	15 76	55
65	26 67	21 88	18 35	15 72	65
75	26 64	21 85	18 35	15 72	75
10 20 20	27 37	22 37	18 71	15 99	**10 20 20**
30	26 98	22 14	18 56	15 90	30
40	26 69	21 95	18 44	15 82	40
50	26 46	21 72	18 32	15 72	50
60	26 35	21 69	18 25	15 67	60
70	26 30	21 65	18 25	15 67	70
10 25 25	26 93	22 11	18 54	15 88	**10 25 25**
35	26 55	21 87	18 40	15 78	35
45	26 26	21 61	18 26	15 69	45
55	26 06	21 51	18 14	15 60	55
65	25 98	21 45	18 09	15 55	65
75	25 95	21 42	18 08	15 55	75
10 30 30	26 50	21 85	18 40	15 79	**10 30 30**
40	26 13	21 59	18 24	15 69	40
50	25 84	21 38	18 08	15 57	50
60	25 70	21 37	17 98	15 49	60
70	25 63	21 22	17 96	15 47	70

E. G. A LEASE or ANNUITY held on the LONGEST of THREE LIVES 10, 30, and 60, that is, so long as any one of the three shall exist: the PRESENT WORTH at **5** ꝑ cent. is 17 98, or 18 years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £1798.

If calculated at **6** ꝑ cent., the present worth is 15 49, or 15½ years' purchase; and the present worth of each £100 of NET INCOME is £1549.

TABLE VII.—*continued.*

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of THREE LIVES, according to the CARLISLE Table of Mortality.

☞ **The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.**

N. B. **This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.**

Ages of the Lives.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR. 3 ℔ Cent. Years. Parts.	4 ℔ Cent. Years. Parts.	5 ℔ Cent. Years. Parts.	6 ℔ Cent. Years. Parts.	Ages of the Lives.
10 35 35	26 08	21 56	18 22	15 67	**10 35 35**
45	25 70	21 30	18 01	15 53	45
55	25 46	21 12	17 88	15 42	55
65	25 36	21 04	17 81	15 37	65
75	25 32	21 00	17 79	15 36	75
10 40 40	25 66	21 27	18 00	15 52	**10 40 40**
50	25 30	21 01	17 81	15 37	50
60	25 12	20 88	17 72	15 30	60
70	25 03	20 80	17 66	15 26	70
10 45 45	25 25	20 98	17 80	15 38	**10 45 45**
55	24 94	20 75	17 63	15 25	55
65	24 80	20 64	17 53	15 16	65
75	24 74	20 59	17 49	15 13	75
10 50 50	24 87	20 70	17 58	15 20	**10 50 50**
60	24 62	20 51	17 43	15 08	60
70	24 50	20 41	17 35	15 02	70
10 55 55	24 55	20 45	17 40	15 07	**10 55 55**
65	24 33	20 27	17 26	14 95	65
75	24 24	20 20	17 19	14 89	75
10 60 60	24 27	20 23	17 22	14 93	**10 60 60**
70	24 08	20 07	17 09	14 82	70
10 65 65	24 03	20 04	17 05	14 78	**10 65 65**
75	23 90	19 92	16 96	14 71	75
10 70 70	23 85	19 88	16 93	14 68	**10 70 70**
10 75 75	23 72	19 76	16 83	14 59	**10 75 75**
15 20 20	27 06	22 20	18 64	15 96	**15 20 20**
30	26 60	21 92	18 47	15 86	30
40	26 27	21 71	18 33	15 75	40
50	26 01	21 51	18 18	15 64	50
60	25 89	21 42	18 10	15 58	60
70	25 82	21 36	18 05	15 54	70
15 30 30	26 05	21 59	18 26	15 73	**15 30 30**
40	25 62	21 30	18 06	15 58	40
50	25 30	21 06	17 88	15 45	50
60	25 14	20 94	17 79	15 38	60
70	25 06	20 87	17 73	15 32	70

TABLE VII.—*continued.*

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of THREE LIVES, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N. B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Ages of the Lives.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR. 3 ꝑ Cent.	 4 ꝑ Cent.	 5 ꝑ Cent.	 6 ꝑ Cent.	Ages of the Lives.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
15 40 40	25 08	20 93	17 82	15 42	**15 40 40**
50	24 68	20 64	17 59	15 25	50
60	24 47	20 48	17 48	15 15	60
70	24 37	20 39	17 40	15 09	70
15 50 50	24 18	20 27	17 33	15 05	**15 50 50**
60	23 90	20 06	17 16	14 91	60
70	23 76	19 94	17 06	14 83	70
15 60 60	23 49	19 74	16 90	14 71	**15 60 60**
70	23 27	19 55	16 75	14 58	70
15 70 70	23 00	19 32	16 56	14 43	**15 70 70**
20 20 20	26 78	22 04	18 54	15 89	**20 20 20**
30	26 25	21 72	18 35	15 78	30
40	25 87	21 47	18 18	15 66	40
50	25 58	21 25	18 01	15 53	50
60	25 44	21 14	17 93	15 47	60
70	25 37	21 08	17 88	15 43	70
20 30 30	25 62	21 34	18 11	15 63	**20 30 30**
40	25 13	21 00	17 88	15 48	40
50	24 76	20 73	17 68	15 32	50
60	24 58	20 60	17 57	15 24	60
70	24 49	20 52	17 51	15 18	70
20 40 40	24 51	20 59	17 60	15 28	**20 40 40**
50	24 05	20 25	17 35	15 09	50
60	23 82	20 08	17 21	14 98	60
70	23 70	19 98	17 13	14 92	70
20 50 50	23 49	19 84	17 04	14 86	**20 50 50**
60	23 17	19 60	16 86	14 72	60
70	23 01	19 46	16 74	14 62	70
20 60 60	22 71	19 24	16 57	14 49	**20 60 60**
70	22 47	19 03	16 40	14 35	70
20 70 70	22 16	18 77	16 18	14 17	**20 70 70**
30 30 30	24 81	20 87	17 83	15 46	**30 30 30**
40	24 18	20 42	17 52	15 24	40
50	23 63	20 04	17 24	15 03	50
60	23 45	19 87	17 11	14 93	60
70	23 32	19 76	17 02	14 85	70

TABLE VII.—*continued.*

Present Worth of Property, either Lease, Estate, or Annuity, held on the Longest of Three Lives, according to the **Carlisle** Table of Mortality.

☞ The Answers show the value of each £100 of net income, as well as the number of years' purchase.

N. B. This Table shows the rate of interest which a purchaser may make of his money and replace his capital, provided he can re-invest the surplus income, beyond the interest on the purchase-money, at the same rate of interest.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.				Ages of the Lives.
	3 ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
30 40 40	23 34	19 85	17 14	14 98	**30 40 40**
50	22 72	19 39	16 80	14 73	50
60	22 42	19 16	16 62	14 58	60
70	22 26	19 03	16 51	14 49	70
30 50 50	21 97	18 84	16 39	14 42	**30 50 50**
60	21 55	18 53	16 14	14 23	60
70	21 34	18 35	16 00	14 11	70
30 60 60	20 95	18 05	15 77	14 93	**30 60 60**
70	20 62	17 78	15 54	13 74	70
30 70 70	20 21	17 44	15 25	13 50	**30 70 70**
40 40 40	22 34	19 18	16 69	14 68	**40 40 40**
50	21 48	18 55	16 21	14 32	50
60	21 05	18 22	15 96	14 12	60
70	20 83	18 04	15 81	14 00	70
40 50 50	20 41	17 72	15 65	13 90	**40 50 50**
60	19 83	17 33	15 29	13 62	60
70	19 55	17 09	15 10	13 46	70
40 60 60	18 99	16 67	14 78	13 21	**40 60 60**
70	18 56	16 31	14 48	12 96	70
40 70 70	18 02	15 86	14 10	12 65	**40 70 70**
50 50 50	19 05	16 77	14 89	13 33	**50 50 50**
60	18 20	16 12	14 39	12 94	60
70	17 76	15 76	14 08	12 69	70
50 60 60	16 95	15 14	13 62	12 33	**50 60 60**
70	16 30	14 60	13 17	11 95	70
50 70 70	15 48	13 92	12 60	11 47	**50 70 70**
60 60 60	15 21	13 76	12 53	11 46	**60 60 60**
70	14 16	12 88	11 79	10 83	70
60 70 70	12 83	11 77	10 86	10 04	**60 70 70**
70 70 70	10 98	10 20	9 49	8 86	**70 70 70**

E. G. A Lease or Annuity held on the longest of Three Lives 40, 50, and 70, that is, so long as any one of the three shall exist: the present worth at **4** ꝑ cent. is 17 09, or just above 17 years' purchase of the net income; and the present worth of each £100 of net income is £1709.

If calculated at **6** ꝑ cent., the present worth is 13 46, or 13¼ years' purchase; and the present worth of each £ 100 of *net income* is £ 1346.

NEW TABLE VII.

Present Worth of Property, either Lease, Estate, or Annuity, held on the Longest of Three Lives, according to the **Carlisle** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per Annum, as available Interest on his Purchase Money, or Capital advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ℘ cent. thereof, in order to replace the Purchase Money or Capital.

☞ The Answers show the value in Pounds of each £100 of net income, as well as the number of years' purchase.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.						
	The available Interest on Capital, if the re-investments be made at 3 ℘ Cent.			Ages of the Lives.	The available Interest on Capital, if the re-investments be made at 3 ℘ Cent.		
	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.		5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.
	Yrs. Pts.	Yrs. Pts.	Yrs. Pts		Yrs. Pts.	Yrs. Pts.	Yrs. Pts.
10 10 10	18 08	15 31	13 28	**10 25 25**	17 51	14 90	12 97
20	17 89	15 17	13 17	35	17 33	14 77	12 87
30	17 76	15 08	13 11	45	17 21	14 68	12 80
40	17 67	15 01	13 05	55	17 12	14 62	12 75
50	17 60	14 97	13 02	65	17 09	14 60	12 74
60	17 57	14 95	13 00	75	17 09	14 60	12 74
70	17 54	14 92	12 99	**10 30 30**	17 33	14 77	12 87
10 15 15	17 89	15 17	13 17	40	17 15	14 64	12 77
25	17 70	15 04	13 07	50	17 03	14 56	12 71
35	17 57	14 95	13 00	60	16 98	14 51	12 67
45	17 51	14 90	12 97	70	16 95	14 49	12 66
55	17 42	14 84	12 92	**10 35 35**	17 15	14 64	12 77
65	17 39	14 81	12 90	45	16 98	14 51	12 67
75	17 39	14 81	12 90	55	16 86	14 43	12 61
10 20 20	17 70	15 04	13 07	65	16 83	14 41	12 59
30	17 51	14 90	12 97	75	16 81	14 39	12 58
40	17 39	14 81	12 90	**10 40 40**	16 95	14 49	12 66
50	17 30	14 75	12 85	50	16 81	14 39	12 58
60	17 27	14 73	12 84	60	16 72	14 33	12 53
70	17 24	14 70	12 82	70	16 69	14 31	12 51

E.G. The Present Worth of an Annuity, held on the Longest of Three Lives, 10, 30, and 60—that is, so long as any one of the three shall exist—if the Purchaser is to make 6 ℘ cent. on the purchase-money, and re-invest the surplus at 3 ℘ cent. to replace capital, is 14 51 or 14½ years' purchase of the net income, and the present worth of each £100 of net income is £1451.

If it be required to make 7 ℘ cent. on the purchase-money, and re-invest the surplus at 3 per cent., the present worth is 12 67 or 12⅔ years' purchase of the net income, and the present worth of each £100 of net income is £1267.

NEW TABLE VII.—(*continued*).

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of THREE LIVES, according to the **CARLISLE** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per Annum, as available Interest on his PURCHASE MONEY, or CAPITAL advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such Interest, so as to make 3 ℘ cent. thereof, in order to replace the Purchase Money or Capital.

☞ **The Answers show the value in Pounds of each £100 of NET INCOME, as well as the number of years' purchase.**

Ages of the Lives.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR. The available Interest on Capital, if the re-investments be made at 3 ℘ Cent.		
	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.
	Yrs. Pts.	Yrs. Pts.	Yrs. Pts.
10 45 45	16 78	14 37	12 56
55	16 64	14 26	12 48
65	16 58	14 22	12 45
75	16 56	14 20	12 44
10 50 50	16 61	14 24	12 47
60	16 50	14 16	12 41
70	16 45	14 12	12 38
10 55 55	16 47	14 14	12 39
65	16 37	14 06	12 33
75	16 34	14 04	12 31
10 60 60	16 34	14 04	12 31
70	16 26	13 99	12 27
10 65 65	16 23	13 97	12 25
75	16 18	13 93	12 22
10 70 70	16 15	13 91	12 21
10 75 75	16 10	13 87	12 18
15 20 20	17 57	14 95	13 00
30	17 36	14 79	12 89
40	17 21	14 68	12 80
50	17 12	14 62	12 75
60	17 06	14 58	12 72
70	17 03	14 56	12 71
15 30 30	17 12	14 62	12 75
40	16 95	14 49	12 66
50	16 81	14 39	12 58
60	16 72	14 33	12 53
70	16 69	14 31	12 51
15 40 40	16 69	14 31	12 51
50	16 53	14 18	12 42
60	16 42	14 10	12 36
70	16 39	14 08	12 34
15 50 50	16 31	14 02	12 30
60	16 18	13 93	12 22
70	16 10	13 87	12 18
15 60 60	15 97	13 77	12 11
70	15 87	13 70	12 05
15 70 70	15 75	13 60	11 98
20 20 20	17 45	14 86	12 94
30	17 21	14 68	12 80
40	17 06	14 58	12 72
50	16 92	14 47	12 64
60	16 86	14 43	12 61
70	16 83	14 41	12 59
20 30 30	16 95	14 49	12 66
40	16 72	14 33	12 53
50	16 56	14 20	12 44
60	16 47	14 14	12 39
70	16 45	14 12	12 38
20 40 40	16 45	14 12	12 38
50	16 23	13 97	12 25
60	16 13	13 89	12 19
70	16 08	13 85	12 16

NEW TABLE VII.—(*continued*).

PRESENT WORTH of PROPERTY, either LEASE, ESTATE, or ANNUITY, held on the LONGEST of THREE LIVES, according to the **CARLISLE** Table of Mortality.

Supposing the Purchaser thereof to take out of the Annuity £5 ℔ cent., £6 ℔ cent., or £7 ℔ cent. per Annum, as available Interest on his PURCHASE MONEY, or CAPITAL advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond such interest, so as to make 3 ℔ cent. thereof, in order to replace the Purchase Money or Capital.

☞ The Answers show the value in Pounds of each £100 of NET INCOME, as well as the number of years' purchase.

YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.

Ages of the Lives.	The available interest on Capital, if the re-investments be made at **3** ℔ Cent.		
	5 ℔ Cent.	**6** ℔ Cent.	**7** ℔ Cent.
	Yrs. Pts.	Yrs. Pts.	Yrs. Pts.
20 50 50	15 97	13 77	12 11
60	15 85	13 68	12 03
70	15 77	13 62	11 99
20 60 60	15 62	13 51	11 90
70	15 50	13 42	11 83
20 70 70	15 36	13 31	11 75
30 30 30	16 58	14 22	12 45
40	16 31	14 02	12 30
50	16 05	13 83	12 15
60	15 97	13 77	12 11
70	15 90	13 72	12 06
30 40 40	15 92	13 74	12 08
50	15 62	13 51	11 90
60	15 48	13 40	11 82
70	15 41	13 35	11 78
30 50 50	15 27	13 24	11 69
60	15 06	13 09	11 57
70	14 95	13 00	11 51
30 60 60	14 77	12 87	11 40
70	14 60	12 74	11 30
30 70 70	14 39	12 58	11 17

Ages of the Lives.	The available interest on Capital, if the re-investments be made at **3** ℔ Cent.		
	5 ℔ Cent.	**6** ℔ Cent.	**7** ℔ Cent.
	Yrs. Pts.	Yrs. Pts.	Yrs. Pts.
40 40 40	15 43	13 37	11 79
50	15 04	13 07	11 56
60	14 81	12 90	11 43
70	14 70	12 82	11 36
40 50 50	14 49	12 66	11 23
60	14 20	12 44	11 06
70	14 06	12 33	10 98
40 60 60	13 77	12 11	10 80
70	13 53	11 92	10 65
40 70 70	13 24	11 69	10 47
50 50 50	13 79	12 12	10 81
60	13 35	11 78	10 54
70	13 11	11 59	10 38
50 60 60	12 66	11 23	10 10
70	12 30	10 95	9 87
50 70 70	11 82	10 57	9 56
60 60 60	11 67	10 45	9 46
70	11 04	9 94	9 04
60 70 70	10 21	9 27	8 48
70 70 70	9 00	8 26	7 63

E G. The PRESENT WORTH OF AN ANNUITY, held on the LONGEST of THREE LIVES, 20, 50, and 60—that is, so long as any one of the three shall exist—if the Purchaser is to make **6** ℔ cent. on the purchase-money, and re-invest the surplus at **3** ℔ cent. to replace capital, is 13 68 or 13¾ years' purchase of the NET INCOME, and the present worth of each £100 of NET INCOME is £1368.

If it be required to make **7** ℔ cent. on the purchase-money, and re-invest the surplus at **3** ℔ cent., the present worth is 12 03, or about 12 years' purchase of the NET INCOME, and the present worth of each £100 of NET INCOME is £1203.

TABLE VIII.

TABLE showing the period ANNUITANTS should live, in order to be re-imbursed the amount of the PURCHASE-MONEY paid for ANNUITIES or INCOMES contingent upon Life.

Years' Purchase given for a Life or Lives.	CONTINUANCE OF THE LIVES TO RE-IMBURSE THE ANNUITANTS THEIR PURCHASE-MONEY.							Years' Purchase given for a Life or Lives.
	3 ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	4½ ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	7 ꝑ Cent.	
	Years.	Years.	Years.	Years.	Years.	Years.	Years.	
5	5½	5¾	5¾	6	6	6¼	6½	5
5½	6¼	6¼	6½	6½	6¾	7	7¼	5½
6	6¾	7	7	7¼	7½	7¾	8¼	6
6½	7½	7¾	7¾	8	8¼	8½	9	6½
7	8	8¼	8½	8¾	9	9½	10	7
7½	8¾	9	9¼	9½	9¾	10¼	11	7½
8	9½	9¾	10	10¼	10½	11¼	12¼	8
8½	10	10½	10¾	11	11½	12¼	13½	8½
9	10¾	11	11½	12	12¼	13½	14¾	9
9½	11½	11¾	12¼	12¾	13¼	14½	16½	9½
10	12¼	12¾	13¼	13¾	14¼	15¾	18	10
10½	13	13½	14	14¾	15½	17¼	19¾	10½
11	13¾	14¼	15	15¾	16½	18¾	21¾	11
11½	14½	15	15¾	16¾	17¾	20¼	24¼	11½
12	15¼	16	16¾	17¾	19	22	27¼	12
12½	16	16¾	17¾	19	20¼	24	30¾	12½
13	16¾	17¾	18¾	20	21¾	26	35¾	13
13½	17¾	18¾	20	21¼	23¼	28½	43	13½
14	18½	19¾	21	22¾	24¾	31½	58	14
14½	19½	20¾	22¼	24¼	26½	35¼		14½
15	20¼	21¾	23½	25¾	28½	39¾		15
15½	21¼	22¾	24¾	27¼	30¾	45¾		15½
16	22¼	24	26¼	29	33	55¼		16
16½	23¼	25¼	27¾	31	35¾	79¼		16½
17	24¼	26½	29¼	33	39			17
17½	25¼	27¾	30¾	35¼	42¾			17½
18	26½	29	32½	37¾	47¼			18
18½	27½	30½	34½	40¾	53¼			18½
19	28¾	32	36½	44	61½			19
19½	29¾	33½	38¾	47¾	75¾			19½
20	31	35	41¼	52½				20

_E. G._ A party having paid 10 years' purchase for an ANNUITY, in order to make 4 ꝑ cent. on the PURCHASE-MONEY he must enjoy the Annuity 13¼ years. For instance, if he paid £1000, or 10 years' purchase for £100 a year: after allowing, out of the Income, £40 for the use of the money, he invests the £60 at the same rate of Interest, viz. 4 ꝑ cent., to form a SINKING FUND. In 13¼ years it would amount to more than £1000, and thereby replace the CAPITAL expended in the purchase.

N.B. If the re-investment took place at only 3 ꝑ cent., 14 years would be required.

TABLE IX.

TABLE of CENTENARIANS, who reached the age of 100 and upwards. By C. BABBAGE, Esq.

N.B. All died previous to the year 1800.

Ages.	Number alive.	Die in Next Year.	Ages.	Number alive.	Die in Next Year.	Ages.	Number alive.	Die in Next Year.
100	1751	164	**120**	143	17	**140**	12	2
101	1587	145	121	126	14	141	10	1
102	1442	162	122	112	13	142	9	1
103	1280	154	123	99	11	143	8	1
104	1126	150	124	88	9	144	7	1
105	976	140	125	79	8	145	6	1
106	836	120	126	71	8	146	5	1
107	716	94	127	63	7	147	4	1
108	622	80	128	56	6	148	3	1
109	542	69	129	50	6	149	2	1
110	473	57	**130**	44	5	**150**	1	1
111	416	48	131	39	4			
112	368	40	132	35	4			
113	328	34	133	31	3			
114	294	31	134	28	3			
115	263	29	135	25	3			
116	234	25	136	22	3			
117	209	24	137	19	3			
118	185	22	138	16	2			
119	163	20	139	14	2			

COMPARATIVE VIEW of the Duration of Life among Centenarians.

Of persons who have attained the Age of	There die before the Age of	* By Haller's Table.	† By Easton's Table.	By Babbage's Table.
100	110	1000	1310	1278
110	120	60	277	330
120	130	29	84	99
130	140	15	26	32
140	150	6	7	12
150	160	1	3	
160	170		2	
170	above		3	
		1111	1712	1751

* See Hufeland's 'Art of Prolonging Life.'
† See James Easton's Work on 'Human Longevity.'

☞ The above Tables are from C. Babbage's 'Comparative View,' &c. of Life Assurance Offices, 1826.

TABLE X.

Present Worth of the **Reversion** to a **Freehold Estate**, after the **longest** of **Two Lives** of given ages, according to the **CARLISLE** Table of Mortality.

☞ The Answers show the value of each £100 of **net income**, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his **capital**, provided he can re-invest the surplus income, beyond the interest on the **purchase-money**, at the same rate of interest.

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.			
	3 ℔ Cent.	4 ℔ Cent.	5 ℔ Cent.	6 ℔ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
5 5	5 76	2 62	1 33	74
10	6 00	2 74	1 39	77
15	6 35	2 95	1 52	85
20	6 67	3 14	1 64	93
25	6 99	3 35	1 78	1 02
30	7 30	3 56	1 91	1 12
35	7 59	3 76	2 06	1 21
40	7 89	3 97	2 21	1 32
45	8 16	4 16	2 35	1 43
50	8 43	4 37	2 51	1 56
55	8 70	4 58	2 68	1 70
60	8 92	4 77	2 84	1 93
65	9 09	4 91	2 96	1 98
70	9 25	5 05	3 08	2 03
75	9 37	5 16	3 18	2 12
80	9 45	5 23	3 24	2 18
85	9 51	5 29	3 29	2 23
90	9 54	5 32		
10 10	6 27	2 88	1 46	80
15	6 65	3 10	1 60	89
20	7 00	3 32	1 73	98
25	7 34	3 54	1 88	1 07
30	7 67	3 75	2 02	1 17
35	7 98	3 96	2 17	1 27
40	8 28	4 18	2 32	1 38
45	8 56	4 38	2 47	1 49
50	8 83	4 58	2 62	1 61
55	9 08	4 78	2 78	1 74
60	9 29	4 95	2 92	1 85
65	9 44	5 08	3 03	1 95
70	9 57	5 19	3 12	2 03
75	9 66	5 27	3 20	2 09
80	9 72	5 32	3 24	2 13
85	9 76	5 36	3 27	2 16
90	9 77	5 37	3 29	2 18
15 15	7 08	3 36	1 76	99
20	7 48	3 60	1 91	1 09
25	7 88	3 86	2 08	1 20
30	8 26	4 11	2 24	1 31
35	8 61	4 35	2 41	1 43
40	8 95	4 59	2 58	1 56
45	9 27	4 82	2 75	1 68
15 50	9 58	5 06	2 93	1 82
55	9 87	5 29	3 12	1 97
60	10 11	5 48	3 28	2 10
65	10 29	5 63	3 40	2 21
70	10 44	5 77	3 52	2 31
75	10 55	5 86	3 60	2 38
80	10 62	5 92	3 66	2 43
85	10 67	5 97	3 70	2 47
90	10 69	5 99	3 72	2 49
20 20	7 94	3 88	2 09	1 20
25	8 39	4 17	2 28	1 33
30	8 83	4 46	2 47	1 46
35	9 24	4 74	2 66	1 59
40	9 63	5 01	2 84	1 73
45	9 98	5 27	3 04	1 87
50	10 33	5 54	3 25	2 03
55	10 66	5 80	3 46	2 20
60	10 93	6 02	3 64	2 35
65	11 13	6 19	3 78	2 47
70	11 30	6 33	3 91	2 58
75	11 42	6 44	4 00	2 66
80	11 50	6 51	4 06	2 72
85	11 55	6 56	4 10	2 76
90	11 58	6 58	4 13	2 78
25 25	8 92	4 51	2 49	1 47
30	9 42	4 84	2 71	1 62
35	9 89	5 16	2 93	1 77
40	10 35	5 48	3 16	1 94
45	10 76	5 78	3 38	2 10
50	11 16	6 08	3 62	2 29
55	11 53	6 38	3 85	2 47
60	11 84	6 63	4 06	2 65
65	12 08	6 83	4 23	2 79
70	12 28	7 00	4 38	2 92
75	12 42	7 12	4 48	3 01
80	12 50	7 20	4 55	3 08
85	12 57	7 26	4 61	3 13
90	12 60	7 29	4 63	3 15
30 30	10 00	5 22	2 97	1 80
35	10 55	5 60	3 23	1 98
40	11 08	5 97	3 49	[illegible]

TABLE X.—*continued.*

Ages of the Lives.	Years' Purchase, or Pounds for each £100 a Year.			
	3 ⅌ Cent.	**4** ⅌ Cent.	**5** ⅌ Cent.	**6** ⅌ Cent.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.
30 45	11 56	6 32	3 75	2 36
50	12 02	6 67	4 02	2 57
55	12 46	7 01	4 29	2 79
60	12 81	7 30	4 53	2 99
65	13 08	7 53	4 72	3 14
70	13 31	7 73	4 89	3 29
75	13 48	7 87	5 02	3 41
80	13 58	7 96	5 10	3 48
85	13 65	8 03	5 17	3 54
90	13 69	8 06	5 20	3 57
35 35	11 19	6 03	3 52	2 18
40	11 80	6 47	3 84	2 41
45	12 37	6 87	4 14	2 63
50	12 91	7 28	4 45	2 87
55	13 41	7 68	4 76	3 13
60	13 82	8 01	5 04	3 35
65	14 12	8 26	5 25	3 53
70	14 38	8 49	5 45	3 70
75	14 57	8 65	5 59	3 83
80	14 68	8 76	5 68	3 91
85	14 76	8 83	5 75	3 98
90	14 80	8 87	5 79	4 01
40 40	12 53	6 98	4 20	2 67
45	13 19	7 46	4 56	2 94
50	13 84	7 95	4 93	3 23
55	14 44	8 42	5 31	3 53
60	14 92	8 82	5 63	3 79
65	15 28	9 11	5 88	4 00
70	15 58	9 37	6 10	4 20
75	15 79	9 56	6 27	4 35
80	15 93	9 68	6 38	4 45
85	16 02	9 77	6 46	4 52
90	16 07	9 81	6 50	4 56
45 45	13 98	8 03	4 98	3 25
50	14 75	8 62	5 43	3 60
55	15 46	9 18	5 87	3 96
60	16 04	9 65	6 26	4 27
65	16 46	10 00	6 55	4 52
70	16 81	10 30	6 81	4 74
75	17 05	10 51	6 99	4 90
80	17 19	10 64	7 11	5 01
85	17 30	10 73	7 20	5 09
90	17 34	10 78	7 24	5 13
50 50	15 67	9 32	5 97	4 02
55	16 54	10 01	6 52	4 46
50 60	17 27	10 60	7 00	4 86
65	17 80	11 04	7 37	5 17
70	18 24	11 42	7 70	5 45
75	18 54	11 68	7 93	5 65
80	18 72	11 84	8 07	5 78
85	18 84	11 95	8 17	5 88
90	18 89	12 00	8 22	5 92
55 55	17 62	10 87	7 20	5 01
60	18 53	11 61	7 82	5 52
65	19 23	12 19	8 30	5 93
70	19 82	12 70	8 55	6 32
75	20 22	13 06	9 06	6 60
80	20 48	13 29	9 27	6 78
85	20 66	13 45	9 41	6 92
90	20 73	13 52	9 48	6 98
60 60	19 64	12 53	8 57	6 15
65	20 51	13 25	9 19	6 67
70	21 28	13 92	9 77	7 18
75	21 83	14 40	10 19	7 56
80	22 17	14 71	10 47	7 81
85	22 42	14 94	10 69	8 01
90	22 54	15 05	10 79	8 10
65 65	21 54	14 12	9 92	7 30
70	22 48	14 94	10 63	7 92
75	23 16	15 53	11 17	8 39
80	23 59	15 92	11 52	8 71
85	23 90	16 21	11 78	8 95
90	24 05	16 34	11 90	9 07
70 70	23 64	15 95	11 52	8 70
75	24 50	16 71	12 20	9 31
80	25 07	17 23	12 67	9 73
85	25 50	17 62	13 03	10 07
90	25 70	17 81	13 20	10 23
75 75	25 54	17 64	13 04	10 06
80	26 14	18 28	13 62	10 59
85	26 81	18 80	14 10	11 04
90	27 08	19 06	14 34	11 27
80 80	27 06	19 02	14 29	11 21
85	27 73	19 64	14 87	11 75
90	28 06	19 95	15 16	12 02
85 85	28 53	20 39	5 56	12 40
90	28 94	20 77	15 93	12 74
90 90	29 42	21 23	16 37	13 16

E.G. The PRESENT WORTH of the REVERSION to a FREEHOLD ESTATE after the LONGEST of TWO LIVES 65 and 80, or when both are dead, is at **4** ⅌ cent. 15 92, or nearly 16 years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £1592.

If calculated at **5** ⅌ cent., the present worth is 11 52, or 11½ years' purchase; and the present worth of each £100 of NET INCOME is £1152.

TABLE XI.

PRESENT WORTH of the REVERSION to a FREEHOLD ESTATE or a PERPETUITY after any given number of years not exceeding 70.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N. B. By this Table is seen, opposite each number of years, the amount which at the respective rates of interest will, with Compound Interest at the same rate, amount to the full value of the PROPERTY at the end of the given number of years, when possession is to be obtained.

After these years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 OF NET INCOME.						After these years.
	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	8 ℘ Cent.	10 ℘ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
1	32 36	24 04	19 05	15 72	11 57	9 09	1
2	31 42	23 11	18 14	14 83	10 71	8 26	2
3	30 50	22 22	17 27	13 99	9 92	7 51	3
4	29 61	21 37	16 45	13 20	9 19	6 83	4
5	28 75	20 55	15 67	12 45	8 51	6 21	5
6	27 91	19 76	14 92	11 75	7 88	5 64	6
7	27 10	19 00	14 21	11 08	7 29	5 13	7
8	26 31	18 27	13 53	10 45	6 75	4 66	8
9	25 55	17 56	12 89	9 86	6 25	4 24	9
10	24 80	16 89	12 28	9 30	5 79	3 85	**10**
11	24 08	16 24	11 69	8 78	5 36	3 50	11
12	23 38	15 61	11 13	8 28	4 96	3 18	12
13	22 70	15 01	10 60	7 81	4 59	2 89	13
14	22 04	14 43	10 10	7 37	4 25	2 63	14
15	21 39	13 88	9 62	6 95	3 94	2 39	15
16	20 77	13 35	9 16	6 56	3 65	2 17	16
17	20 17	12 83	8 72	6 19	3 38	1 98	17
18	19 58	12 34	8 31	5 84	3 13	1 80	18
19	19 01	11 86	7 91	5 51	2 89	1 63	19
20	18 45	11 41	7 54	5 19	2 68	1 48	**20**
21	17 92	10 97	7 18	4 90	2 48	1 35	21
22	17 39	10 55	6 84	4 62	2 30	1 23	22
23	16 89	10 14	6 51	4 36	2 13	1 11	23
24	16 40	9 75	6 20	4 11	1 97	1 01	24
25	15 92	9 38	5 90	3 88	1 82	92	25
26	15 45	9 02	5 62	3 66	1 69	84	26
27	15 00	8 67	5 36	3 45	1 56	76	27
28	14 57	8 33	5 10	3 26	1 45	69	28
29	14 14	8 01	4 86	3 07	1 34	63	29
30	13 73	7 71	4 63	2 90	1 24	57	**30**
31	13 33	7 41	4 41	2 74	1 15	52	31
32	12 94	7 12	4 20	2 58	1 06	47	32

E.G. The PRESENT WORTH of the REVERSION to a FREEHOLD ESTATE after 14 years at 5 ℘ cent. is 10 10, or a little more than 10 years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £1010.

If calculated at 8 ℘ cent., the present worth is 4 25, or 4¼ years' purchase; and the present worth of each £100 of NET INCOME is £ 425.

TABLE XI.—*continued.*

After these years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 OF NET INCOME.						After these years.
	3 ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	**8** ꝑ Cent.	**10** ꝑ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
33	12 57	6 85	4 00	2 43	98	43	33
34	12 20	6 59	3 81	2 30	91	39	34
35	11 84	6 33	3 62	2 17	84	35	35
36	11 50	6 09	3 45	2 04	78	32	36
37	11 16	5 86	3 29	1 93	72	29	37
38	10 84	5 63	3 13	1 82	67	27	38
39	10 52	5 41	2 98	1 72	62	24	39
40	10 22	5 21	2 84	1 62	57	22	**40**
41	9 92	5 00	2 70	1 54	53	20	41
42	9 63	4 81	2 57	1 44	49	18	42
43	9 35	4 63	2 45	1 36	45	16	43
44	9 08	4 45	2 34	1 28	42	15	44
45	8 81	4 28	2 22	1 21	39	14	45
46	8 56	4 11	2 12	1 14	36	12	46
47	8 31	3 96	2 02	1 08	33	11	47
48	8 06	3 80	1 92	1 01	31	10	48
49	7 83	3 66	1 83	96	29	09	49
50	7 60	3 52	1 74	90	26	08	**50**
51	7 38	3 38	1 66	85	25	08	51
52	7 17	3 25	1 58	80	23	07	52
53	6 96	3 13	1 51	76	21	06	53
54	6 75	3 01	1 43	71	19	06	54
55	6 56	2 89	1 37	67	18	05	55
56	6 37	2 78	1 30	64	17	05	56
57	6 18	2 67	1 24	60	15	04	57
58	6 00	2 57	1 18	57	14	04	58
59	5 83	2 47	1 12	53	13	03	59
60	5 66	2 38	1 07	50	12	03	**60**
61	5 49	2 28	1 02	47	11	03	61
62	5 33	2 20	97	45	10	03	62
63	5 18	2 11	92	42	10	02	63
64	5 03	2 03	88	40	09	02	64
65	4 88	1 95	84	38	08	02	65
66	4 74	1 88	80	35	08	02	66
67	4 60	1 80	76	33	07	02	67
68	4 46	1 74	72	31	07	01	68
69	4 33	1 67	69	30	06	01	69
70	4 21	1 60	66	28	06	01	**70**
Value of Perpetuity	33 33	25 00	20 00	16 66	12 50	10 00	Value of Perpetuity

E. G. The PRESENT WORTH of the REVERSION to a FREEHOLD ESTATE after 53 years at **5** ꝑ cent. is 1 51, or 1½ year's purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £151.

If calculated at **6** ꝑ cent., the present worth is only 76, or ¾ of a year's purchase; and the present worth of each £100 of NET INCOME is £ 76.

TABLE XII.

PRESENT WORTH of a REVERSIONARY ANNUITY on a SINGLE LIFE, after another SINGLE LIFE now in Possession, according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET ANNUITY, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which the purchaser ultimately expects to make of his money and to replace his CAPITAL, provided he should be enabled to obtain the same rate of interest, when investing for accumulation.

Age of the Life in Reversion.	Age of the Life in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR. 3 ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	Age of the Life in Possession.	Age of the Life in Reversion.
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
10	30	6 10	4 39	3 25	2 47	30	10
	35	6 91	4 99	3 70	2 82	35	
	40	7 91	5 75	4 29	3 28	40	
	45	8 91	6 52	4 88	3 75	45	
	50	10 20	7 55	5 71	4 42	50	
	55	11 84	8 92	6 87	5 40	55	
	60	13 55	10 39	8 14	6 50	60	
	65	14 97	11 61	9 20	7 44	65	
	70	16 64	13 10	10 54	8 64	70	
	75	18 16	14 49	11 81	9 81	75	
	80	19 25	15 49	12 74	10 67	80	
20	30	4 94	3 68	2 81	2 19	30	20
	35	5 66	4 22	3 21	2 50	35	
	40	6 56	4 91	3 75	2 93	40	
	45	7 49	5 62	4 30	3 36	45	
	50	8 70	6 59	5 09	4 00	50	
	55	10 26	7 90	6 19	4 94	55	
	60	11 91	9 32	7 42	6 01	60	
	65	13 28	10 50	8 45	6 92	65	
	70	14 90	11 95	9 75	8 09	70	
	75	16 39	13 32	11 01	9 24	75	
	80	17 47	14 31	11 92	10 09	80	
30	30	3 77	2 92	2 30	1 85	30	30
	35	4 35	3 36	2 64	2 11	35	
	40	5 11	3 95	3 11	2 49	40	
	45	5 90	4 57	3 60	2 88	45	
	50	7 00	5 46	4 32	3 46	50	
	55	8 47	6 69	5 36	4 35	55	

E. G. The PRESENT WORTH of a REVERSIONARY ANNUITY on a SINGLE LIFE aged 20, after another single life aged 75, now in possession, at 5 ꝑ cent. is 11 01, or 11 years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £1101.

If calculated at 6 ꝑ cent., the present worth is 9 24, or 9¼ years' purchase; and the present worth of each £100 of NET INCOME is £924.

TABLE XII.—*continued.*

Age of the Life in Reversion.	Age of the Life in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.				Age of the Life in Possession.	Age of the Life in Reversion.
		3 ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.	**6** ℘ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
30	60	10 03	8 03	6 53	5 37	60	**30**
	65	11 33	9 16	7 51	6 24	65	
	70	12 89	10 56	8 77	7 37	70	
	75	14 34	11 89	9 99	8 49	75	
	80	15 39	12 85	10 88	9 32	80	
40	30	2 69	2 17	1 78	1 47	30	**40**
	35	3 09	2 49	2 03	1 68	35	
	40	3 66	2 95	2 40	1 99	40	
	45	4 27	3 43	2 79	2 30	45	
	50	5 19	4 18	3 40	2 80	50	
	55	6 48	5 28	4 34	3 61	55	
	60	7 92	6 52	5 43	4 56	60	
	65	9 14	7 58	6 35	5 38	65	
	70	10 63	8 91	7 56	6 46	70	
	75	12 03	10 20	8 74	7 55	75	
	80	13 04	11 13	9 60	8 36	80	
50	30	1 75	1 47	1 25	1 08	30	**50**
	35	1 99	1 67	1 42	1 22	35	
	40	2 35	1 97	1 67	1 43	40	
	45	2 72	2 28	1 92	1 64	45	
	50	3 36	2 81	2 37	2 01	50	
	55	4 38	3 69	3 13	2 68	55	
	60	5 57	4 74	4 06	3 50	60	
	65	6 61	5 65	4 86	4 21	65	
	70	7 96	6 87	5 96	5 21	70	
	75	9 28	8 08	7 08	6 25	75	
	80	10 25	8 97	7 91	7 02	80	
60	30	96	84	74	66	30	**60**
	35	1 08	95	83	74	35	
	40	1 27	1 11	98	87	40	
	45	1 43	1 24	1 09	96	45	
	50	1 76	1 53	1 34	1 18	50	
	55	2 39	2 09	1 83	1 62	55	
	60	3 19	2 81	2 48	2 21	60	
	65	3 90	3 44	3 04	2 71	65	
	70	4 92	4 37	3 89	3 49	70	
	75	5 99	5 36	4 81	4 34	75	
	80	6 79	6 10	5 51	4 99	80	

E. G. The PRESENT WORTH of a REVERSIONARY ANNUITY on a SINGLE LIFE aged 50, after another single life aged 80, now in possession, at **4** ℘ cent. is 8 97, or close to 9 years' purchase of the NET INCOME; and the present worth of each £100 of NET INCOME is £897.

If calculated at **6** ℘ cent., the present worth is 7 02, or 7 years' purchase; and the present worth of each £100 of NET INCOME is £702.

TABLE XIII.

PRESENT WORTH of the NEXT PRESENTATION to a LIVING, the Life to be nominated at the Death of the Party now in Possession; and considering the Life in Reversion to be the Youngest that can be put in, viz. 25; according to the CARLISLE Table of Mortality.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

Age of the Party in Reversion.	Age of the Party in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.						Age of the Party in Possession.
		3 ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	7 ꝑ Cent.	8 ꝑ Cent.	
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
25	**30**	8 54	5 75	4 03	2 94	2 22	1 72	**30**
	31	8 67	5 85	4 12	3 00	2 27	1 76	31
	32	8 80	5 96	4 20	3 07	2 32	1 80	32
	33	8 94	6 07	4 29	3 14	2 38	1 84	33
	34	9 08	6 20	4 39	3 22	2 44	1 89	34
	35	9 23	6 32	4 49	3 30	2 50	1 95	**35**
	36	9 39	6 45	4 60	3 39	2 57	2 01	36
	37	9 55	6 59	4 71	3 48	2 65	2 07	37
	38	9 71	6 72	4 82	3 57	2 72	2 13	38
	39	9 87	6 86	4 94	3 67	2 80	2 19	39
	40	10 03	7 00	5 05	3 76	2 88	2 26	**40**
	41	10 19	7 14	5 17	3 85	2 95	2 32	41
	42	10 34	7 27	5 28	3 94	3 03	2 38	42
	43	10 50	7 40	5 39	4 03	3 10	2 43	43
	44	10 66	7 54	5 50	4 13	3 18	2 50	44
	45	10 83	7 69	5 62	4 23	3 26	2 56	**45**
	46	11 00	7 84	5 75	4 33	3 34	2 64	46
	47	11 18	8 00	5 89	4 45	3 44	2 71	47
	48	11 37	8 17	6 04	4 57	3 54	2 80	48
	49	11 58	8 36	6 20	4 71	3 67	2 91	49
	50	11 80	8 56	6 38	4 87	3 80	3 02	**50**
	51	12 02	8 77	6 57	5 04	3 95	3 15	51
	52	12 26	8 99	6 77	5 21	4 10	3 28	52
	53	12 49	9 21	6 97	5 39	4 26	3 42	53
	54	12 73	9 44	7 17	5 57	4 42	3 57	54

E. G. The PRESENT WORTH of the NEXT PRESENTATION to a LIVING, of the Youngest Life, viz. 25, to be nominated at the Death of the Party now in Possession, aged 50, at **5** ꝑ cent. is 6 38, or rather more than 6¼ years' purchase; and the present worth of each £100 of NET INCOME is £638.

TABLE XIII.—*continued.*

Age of the Party in Reversion.	Age of the Party in Possession.	Years' Purchase, or Pounds for each £100 a Year.						Age of the Party in Possession.
		3 ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.	**6** ℘ Cent.	**7** ℘ Cent.	**8** ℘ Cent.	
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
25	**55**	12 97	9 67	7 38	5 76	4 59	3 72	**55**
	56	13 21	9 90	7 60	5 96	4 77	3 87	56
	57	13 46	10 14	7 82	6 16	4 95	4 04	57
	58	13 71	10 38	8 05	6 37	5 14	4 21	58
	59	13 94	10 61	8 26	6 57	5 32	4 37	59
	60	14 16	10 82	8 46	6 75	5 48	4 52	**60**
	61	14 35	11 01	8 63	6 91	5 62	4 65	61
	62	14 54	11 19	8 81	7 06	5 77	4 78	62
	63	14 73	11 38	8 98	7 22	5 91	4 91	63
	64	14 93	11 58	9 17	7 39	6 07	5 05	64
	65	15 13	11 78	9 36	7 57	6 23	5 20	**65**
	66	15 34	11 99	9 56	7 76	6 40	5 36	66
	67	15 56	12 21	9 77	7 96	6 59	5 53	67
	68	15 78	12 43	9 99	8 17	6 78	5 71	68
	69	16 01	12 67	10 22	8 38	6 99	5 90	69
	70	16 25	12 91	10 45	8 61	7 20	6 10	**70**
	71	16 48	13 15	10 70	8 85	7 43	6 32	71
	72	16 71	13 39	10 93	9 07	7 64	6 52	72
	73	16 91	13 60	11 14	9 28	7 84	6 71	73
	74	17 09	13 79	11 33	9 46	8 01	6 88	74
	75	17 24	13 94	11 48	9 61	8 16	7 01	**75**
	76	17 39	14 09	11 63	9 75	8 30	7 14	76
	77	17 52	14 24	11 77	9 89	8 43	7 27	77
	78	17 66	14 38	11 92	10 03	8 56	7 39	78
	79	17 81	14 54	12 08	10 19	8 71	7 54	79
	80	17 95	14 69	12 23	10 34	8 86	7 68	**80**
	81	18 11	14 85	12 39	10 50	9 02	7 83	81
	82	18 24	15 00	12 54	10 65	9 16	7 97	82
	83	18 38	15 15	12 69	10 80	9 31	8 12	83
	84	18 52	15 29	12 84	10 95	9 46	8 26	84
	85	18 66	15 44	13 00	11 10	9 61	8 41	**85**
	86	18 78	15 57	13 13	11 25	9 75	8 55	86
	87	18 88	15 68	13 25	11 35	9 86	8 66	87
	88	18 94	15 75	13 31	11 42	9 92	8 72	88
	89	19 01	15 82	13 39	11 50	10 00	8 80	89
	90	19 11	15 93	13 51	11 62	10 13	8 92	**90**

E. G. The PRESENT WORTH of the NEXT PRESENTATION to a LIVING, of the Youngest Life, viz. 25, to be nominated at the Death of the Party now in Possession, aged 72, at **5** ℘ cent. is 10 93, or nearly 11 years' purchase; and the present worth of each £100 of NET INCOME is £1093.

If calculated at **6** ℘ cent., is 9 07, or rather more than 9 years' purchase; and the present worth of each £100 of NET INCOME is £907.

TABLE XIV.

PRESENT WORTH of PROPERTY for Terms of Years CERTAIN, whether LEASE, ESTATE, or ANNUITY.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest at the same rate of interest; but if he pay, under the 10 ℘ cent. column, £736 for £100 a year for 14 years, and the average current value of money should only be 3 ℘ cent., he would only realize about 7½ ℘ cent. on his money. See TABLE XV.

Years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Years.
	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
½	49	48	48	48	47	47	47	46	½
1	97	96	95	94	93	92	92	91	1
1½	1 44	1 43	1 41	1 39	1 38	1 36	1 35	1 33	1½
2	1 91	1 88	1 86	1 83	1 81	1 78	1 76	1 73	2
2½	2 37	2 33	2 29	2 26	2 22	2 19	2 15	2 12	2½
3	2 83	2 77	2 72	2 67	2 62	2 58	2 53	2 48	3
3½	3 27	3 20	3 14	3 07	3 01	2 95	2 89	2 83	3½
4	3 72	3 63	3 54	3 46	3 39	3 31	3 24	3 17	4
4½	4 15	4 04	3 94	3 84	3 75	3 66	3 57	3 49	4½
5	4 58	4 45	4 33	4 21	4 10	3 99	3 89	3 79	5
5½	5 00	4 85	4 71	4 57	4 44	4 31	4 19	4 08	5½
6	5 42	5 24	5 07	4 92	4 76	4 62	4 48	4 35	6
6½	5 82	5 62	5 43	5 25	5 08	4 92	4 76	4 62	6½
7	6 23	6 00	5 78	5 58	5 39	5 20	5 03	4 87	7
7½	6 63	6 37	6 13	5 90	5 68	5 48	5 29	5 11	7½
8	7 02	6 73	6 46	6 21	5 97	5 74	5 53	5 33	8
8½	7 40	7 09	6 79	6 51	6 25	6 00	5 77	5 55	8½
9	7 78	7 43	7 11	6 80	6 51	6 24	5 99	5 76	9
9½	8 16	7 77	7 42	7 09	6 77	6 48	6 21	5 95	9½
10	8 53	8 11	7 72	7 36	7 02	6 71	6 42	6 14	10
10½	8 89	8 44	8 02	7 63	7 26	6 93	6 61	6 32	10½
11	9 25	8 76	8 30	7 88	7 50	7 14	6 80	6 49	11
11½	9 60	9 07	8 59	8 14	7 72	7 34	6 98	6 66	11½
12	9 95	9 38	8 86	8 38	7 94	7 53	7 16	6 81	12
12½	10 29	9 69	9 13	8 62	8 15	7 72	7 33	6 96	12½
13	10 63	9 98	9 39	8 85	8 36	7 90	7 48	7 10	13
13½	10 97	10 28	9 65	9 08	8 55	8 08	7 64	7 24	13½
14	11 29	10 56	9 90	9 29	8 74	8 24	7 78	7 36	14
14½	11 62	10 84	10 14	9 50	8 93	8 40	7 92	7 49	14½
15	11 94	11 12	10 38	9 71	9 11	8 56	8 06	7 60	15

E. G. The PRESENT WORTH of a LEASE, ESTATE, or ANNUITY, for 14 years, at 5 ℘ cent. is 9 90, or nearly 10 years' purchase of the NET INCOME; and the present worth of £100 of NET INCOME is £990.

If calculated at 7 ℘ cent., the present worth is 8 74, or 8¾ years' purchase, and the present worth of each £100 of NET INCOME is £874.

TABLE XIV.—*continued.*

PRESENT WORTH of PROPERTY for Terms of Years CERTAIN, whether LEASE, ESTATE, or ANNUITY.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest at the same rate of interest; but if he pay, under the 8 ꝑ cent. column, £ 1001 for £ 100 a year for 21 years, and the average current value of money should only be 3 ꝑ cent., he would only realize about 6½ ꝑ cent. on his money. See TABLE XV.

	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								
Years.	**3** ꝑ Cent.	**4** ꝑ Cent.	**5** ꝑ Cent.	**6** ꝑ Cent.	**7** ꝑ Cent.	**8** ꝑ Cent.	**9** ꝑ Cent.	**10** ꝑ Cent.	Years.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
15½	12 25	11 39	10 61	9 91	9 28	8 71	8 19	7 72	15½
16	12 56	11 65	10 84	10 10	9 44	8 85	8 31	7 82	16
16½	12 86	11 91	11 06	10 29	9 61	8 99	8 43	7 92	16½
17	13 16	12 16	11 27	10 48	9 76	9 12	8 54	8 02	17
17½	13 46	12 41	11 48	10 65	9 91	9 25	8 65	8 11	17½
18	13 75	12 66	11 69	10 83	10 06	9 37	8 75	8 20	18
18½	14 04	12 90	11 89	10 99	10 20	9 49	8 85	8 28	18½
19	14 32	13 13	12 08	11 16	10 33	9 60	8 95	8 36	19
19½	14 60	13 36	12 27	11 31	10 47	9 71	9 04	8 44	19½
20	14 88	13 59	12 46	11 47	10 59	9 82	9 13	8 51	**20**
20½	15 15	13 81	12 64	11 62	10 71	9 92	9 21	8 58	20½
21	15 41	14 03	12 82	11 76	10 83	10 01	9 29	8 65	21
22	15 93	14 45	13 16	12 04	11 06	10 20	9 44	8 77	22
23	16 44	14 85	13 49	12 30	11 27	10 37	9 58	8 88	23
24	16 93	15 24	13 80	12 55	11 47	10 53	9 70	8 98	24
25	17 41	15 62	14 09	12 78	11 65	10 67	9 82	9 08	**25**
26	17 87	15 98	14 37	13 00	11 82	10 81	9 93	9 16	26
27	18 33	16 33	14 64	13 21	11 98	10 93	10 02	9 24	27
28	18 76	16 66	14 90	13 40	12 14	11 05	10 11	9 30	28
29	19 19	16 98	15 14	13 59	12 28	11 16	10 20	9 37	29
30	19 60	17 29	15 37	13 76	12 41	11 26	10 27	9 42	**30**
31	20 00	17 59	15 59	13 93	12 53	11 35	10 34	9 48	31
32	20 39	17 87	15 80	14 08	12 64	11 43	10 40	9 52	32
33	20 76	18 15	16 00	14 23	12 75	11 51	10 46	9 57	33
34	21 13	18 41	16 19	14 37	12 85	11 58	10 52	9 61	34
35	21 49	18 66	16 37	14 50	12 95	11 65	10 56	9 64	**35**
36	21 83	18 91	16 54	14 62	13 03	11 72	10 61	9 67	36
37	22 17	19 14	16 71	14 73	13 12	11 77	10 65	9 70	37
38	22 49	19 37	16 87	14 84	13 19	11 83	10 69	9 73	38
39	22 81	19 58	17 02	14 95	13 26	11 88	10 72	9 75	39

E. G. The PRESENT WORTH of a LEASE, ESTATE, or ANNUITY, for 21 years, at **4** ꝑ cent. is 14 03, or 14 years' purchase of the NET INCOME; and the present worth of £100 of NET INCOME is £1403.

If calculated at **8** ꝑ cent., the present worth is 10 01, or 10 years' purchase; and the present worth of each £ 100 of NET INCOME is £ 1001.

TABLE XIV.—*continued.*

PRESENT WORTH of PROPERTY for Terms of Years CERTAIN, whether LEASE, ESTATE, or ANNUITY.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest at the same rate of interest; but if he pay, under the 9 ⅌ cent. column, £1100 for £100 a year for 54 years, and the average current value of money should only be 3 ⅌ cent., he would only realize about 8½ ⅌ cent. on his money. See TABLE XV.

	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								
Years.	3 ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.	8 ⅌ Cent.	9 ⅌ Cent.	10 ⅌ Cent.	Years.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
40	23 11	19 79	17 16	15 04	13 33	11 92	10 76	9 78	**40**
41	23 41	19 99	17 29	15 14	13 39	11 97	10 78	9 80	41
42	23 70	20 18	17 42	15 22	13 45	12 00	10 81	9 82	42
43	23 98	20 37	17 54	15 30	13 50	12 04	10 84	9 83	43
44	24 25	20 55	17 66	15 38	13 56	12 08	10 86	9 85	44
45	24 52	20 72	17 77	15 45	13 60	12 11	10 88	9 86	**45**
46	24 77	20 88	17 88	15 52	13 65	12 14	10 90	9 87	46
47	25 02	21 04	17 98	15 59	13 69	12 16	10 92	9 88	47
48	25 26	21 19	18 08	15 65	13 73	12 19	10 93	9 89	48
49	25 50	21 34	18 17	15 71	13 76	12 21	10 95	9 90	49
50	25 73	21 48	18 25	15 76	13 80	12 23	10 96	9 91	**50**
51	25 95	21 62	18 34	15 81	13 83	12 25	10 97	9 92	51
52	26 16	21 75	18 42	15 86	13 86	12 27	10 98	9 93	52
53	26 37	21 87	18 49	15 90	13 89	12 29	10 99	9 93	53
54	26 58	21 99	18 56	15 95	13 91	12 30	11 00	9 94	54
55	26 77	22 11	18 63	15 99	13 94	12 32	11 01	9 95	**55**
56	26 96	22 22	18 70	16 03	13 96	12 33	11 02	9 95	56
57	27 15	22 32	18 76	16 06	13 98	12 34	11 03	9 95	57
58	27 33	22 43	18 82	16 10	14 00	12 35	11 03	9 96	58
59	27 50	22 53	18 87	16 13	14 02	12 36	11 04	9 96	59
60	27 67	22 62	18 93	16 16	14 04	12 37	11 05	9 97	**60**
61	27 84	22 71	18 98	16 19	14 05	12 38	11 05	9 97	61
62	28 00	22 80	19 03	16 22	14 07	12 39	11 06	9 97	62
63	28 15	22 89	19 07	16 24	14 08	12 40	11 06	9 97	63
64	28 30	22 97	19 12	16 26	14 10	12 41	11 06	9 98	64
65	28 45	23 04	19 16	16 29	14 11	12 41	11 07	9 98	**65**
66	28 59	23 12	19 20	16 31	14 12	12 42	11 07	9 98	66
67	28 73	23 19	19 24	16 33	14 13	12 43	11 07	9 98	67
68	28 87	23 26	19 27	16 35	14 14	12 43	11 08	9 98	68
69	29 00	23 33	19 31	16 37	14 15	12 44	11 08	9 98	69

E. G. The PRESENT WORTH of a LEASE, ESTATE, or ANNUITY, for 54 years, at **4** ⅌ cent. is 21 99, or 22 years' purchase of the NET INCOME; and the present worth of £100 of NET INCOME is £2199.

If calculated at **6** ⅌ cent., the present worth is 15 95, or nearly 16 years' purchase; and the present worth of each £100 of NET INCOME is £1595.

TABLE XIV.—*continued.*

PRESENT WORTH of PROPERTY for Terms of Years CERTAIN, whether LEASE, ESTATE, or ANNUITY.

☞ The Answers show the value of each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided he can re-invest at the same rate of interest; but if he pay, under the 6 ℘ cent. column, £1650 for £100 a year for 79 years, and the average current value of money should only be 3 ℘ cent., he would only realize about 5⅔ ℘ cent. on his money. See TABLE XV.

Years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.								Years.
	3 ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.	**6** ℘ Cent.	**7** ℘ Cent.	**8** ℘ Cent.	**9** ℘ Cent.	**10** ℘ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
70	29 12	23 39	19 34	16 38	14 16	12 44	11 08	9 99	**70**
71	29 24	23 45	19 37	16 40	14 17	12 45	11 08	9 99	71
72	29 36	23 51	19 40	16 41	14 17	12 45	11 09	9 99	72
73	29 48	23 57	19 43	16 43	14 18	12 45	11 09	9 99	73
74	29 59	23 63	19 46	16 44	14 19	12 46	11 09	9 99	74
75	29 70	23 68	19 48	16 45	14 19	12 46	11 09	9 99	**75**
76	29 81	23 73	19 51	16 47	14 20	12 46	11 09	9 99	76
77	29 91	23 78	19 53	16 48	14 21	12 46	11 09	9 99	77
78	30 01	23 82	19 55	16 49	14 21	12 47	11 10	9 99	78
79	30 10	23 87	19 57	16 50	14 22	12 47	11 10	9 99	79
80	30 20	23 91	19 59	16 51	14 22	12 47	11 10	9 99	**80**
81	30 29	23 96	19 61	16 52	14 22	12 47	11 10	9 99	81
82	30 38	24 00	19 63	16 52	14 23	12 48	11 10	9 99	82
83	30 46	24 03	19 65	16 53	14 23	12 48	11 10	9 99	83
84	30 55	24 07	19 67	16 54	14 24	12 48	11 10	9 99	84
85	30 63	24 11	19 68	16 55	14 24	12 48	11 10	9 99	**85**
86	30 71	24 14	19 70	16 55	14 24	12 48	11 10	9 99	86
87	30 78	24 17	19 71	16 56	14 24	12 48	11 10	9 99	87
88	30 86	24 21	19 72	16 57	14 25	12 48	11 10	9 99	88
89	30 93	24 24	19 74	16 57	14 25	12 48	11 10	9 99	89
90	31 00	24 27	19 75	16 58	14 25	12 49	11 10	9 99	**90**
91	31 07	24 29	19 76	16 58	14 25	12 49	11 10	9 99	91
92	31 13	24 32	19 77	16 59	14 26	12 49	11 10	9 99	92
93	31 20	24 35	19 78	16 59	14 26	12 49	11 10	9 99	93
94	31 26	24 37	19 79	16 59	14 26	12 49	11 10	9 99	94
95	31 32	24 40	19 80	16 60	14 26	12 49	11 10	9 99	**95**
96	31 38	24 42	19 81	16 60	14 26	12 49	11 10	9 99	96
97	31 44	24 44	19 82	16 61	14 26	12 49	11 10	9 99	97
98	31 49	24 46	19 83	16 61	14 26	12 49	11 10	9 99	98
99	31 54	24 48	19 84	16 61	14 27	12 49	11 10	9 99	99
100	31 60	24 50	19 85	16 62	14 27	12 49	11 10	9 99	**100**
Perpetuity.	33 33	25 00	20 00	16 66	14 28	12 50	11 11	10 00	Perpetuity.

E.G. The PRESENT WORTH of a LEASE, ESTATE, or ANNUITY, for 76 years, at **5** ℘ cent. is 19 51, or 19½ years' purchase of the NET INCOME; and the present worth of £100 of NET INCOME is £1951.

If calculated at **6** ℘ cent., the present worth is 16 47, or 16½ years' purchase; and the present worth of each £100 of NET INCOME is £1647.

TABLE XV.

Present Worth of a **Lease, Estate,** or **Annuity,** of £100 per annum, for a given Number of Years certain, supposing the purchaser thereof to take out of the Rent or Annuity £5 ꝑ cent., £6 ꝑ cent., or £7 ꝑ cent. per annum, as an available interest on his PURCHASE-MONEY or CAPITAL advanced, while he is only enabled to re-invest the Surplus of the Rent or Annuity beyond the available interest, so as to make 3 ꝑ cent., 3½ ꝑ cent., 4 ꝑ cent., or 5 ꝑ cent. thereof, in order to replace the purchase-money or capital.

☞ The Answers show the value of each £100 of NET INCOME in Pounds, as well as the number of years' purchase.

	INTEREST TO BE 5 ꝑ CENT.			INTEREST TO BE 6 ꝑ CENT.				INTEREST TO BE 7 ꝑ CENT.			
	The Re-investments to replace Capital to be made at the rate of			The Re-investments to replace Capital to be made at the rate of				The Re-investments to replace Capital to be made at the rate of			
Years.	3 ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	3 ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	3 ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.
	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.
1	95	95	95	94	94	94	94	93	93	93	93
2	1 84	1 85	1 85	1 81	1 81	1 82	1 82	1 78	1 78	1 78	1 79
3	2 68	2 69	2 70	2 61	2 62	2 63	2 65	2 54	2 55	2 56	2 58
4	3 46	3 48	3 50	3 34	3 36	3 38	3 42	3 23	3 25	3 27	3 31
5	4 19	4 23	4 26	4 02	4 06	4 09	4 15	3 87	3 90	3 93	3 98
6	4 89	4 93	4 98	4 66	4 70	4 74	4 83	4 45	4 49	4 53	4 61
7	5 54	5 60	5 66	5 24	5 30	5 36	5 47	4 99	5 03	5 08	5 18
8	6 15	6 23	6 31	5 72	5 86	5 93	6 07	5 48	5 54	5 60	5 72
9	6 74	6 83	6 92	6 31	6 39	6 47	6 63	5 94	5 87	6 08	6 22
10	7 29	7 39	7 50	6 79	6 88	6 98	7 17	6 36	6 41	6 52	6 69
11	7 81	7 93	8 05	7 24	7 35	7 45	7 67	6 75	6 84	6 94	7 12
12	8 30	8 44	8 58	7 66	7 78	7 90	8 14	7 12	7 22	7 32	7 53
13	8 77	8 92	9 08	8 06	8 19	8 32	8 58	7 46	7 57	7 68	7 91
14	9 21	9 38	9 55	8 44	8 58	8 72	9 01	7 78	7 90	8 02	8 26
15	9 63	9 82	10 00	8 79	8 94	9 09	9 40	8 08	8 21	8 34	8 59
16	10 04	10 24	10 43	9 12	9 28	9 45	9 78	8 36	8 50	8 63	8 91
17	10 42	10 63	10 85	9 44	9 61	9 78	10 13	8 62	8 77	8 91	9 20
18	10 79	11 01	11 24	9 73	9 92	10 10	10 47	8 87	9 00	9 17	9 47
19	11 13	11 37	11 61	10 02	10 21	10 40	10 78	9 10	9 26	9 42	9 73
20	11 46	11 71	11 96	10 28	10 49	10 68	11 08	9 32	9 49	9 65	9 97
21	11 78	12 04	12 30	10 54	10 75	10 95	11 36	9 53	9 70	9 87	10 20
22	12 08	12 35	12 62	10 78	11 00	11 21	11 63	9 73	9 91	10 08	10 42
23	12 37	12 65	12 93	11 01	11 23	11 45	11 88	9 92	10 10	10 28	10 62
24	12 65	12 94	13 23	11 23	11 46	11 68	12 12	10 09	10 28	10 46	10 81
25	12 91	13 21	13 51	11 44	11 67	11 90	12 35	10 26	10 45	10 64	10 99
26	13 17	13 47	13 78	11 64	11 87	12 11	12 57	10 42	10 61	10 80	11 16
27	13 41	13 73	14 04	11 82	12 07	12 31	12 77	10 57	10 77	10 96	11 32
28	13 64	13 96	14 28	12 00	12 25	12 53	12 97	10 72	10 92	11 11	11 48
29	13 87	14 19	14 52	12 18	12 43	12 68	13 15	10 85	11 05	11 25	11 62
30	14 08	14 41	14 74	12 34	12 60	12 85	13 32	10 99	11 19	11 38	11 76

⁂ The above has been arranged from an original Table by **Peter Hardy, Esq.**

TABLE XV.—*continued.*

Present Worth of a Lease, Estate, or Annuity, of £100 per annum, for a given Number of Years certain, supposing the purchaser thereof to take out of the Rent or Annuity £5 ℘ cent., £6 ℘ cent., or £7 ℘ cent. per annum, as an available interest on his purchase-money or capital advanced, while he is only enabled to re-invest the surplus of the Rent or Annuity beyond the available interest, so as to make **3** ℘ cent., **3½** ℘ cent., **4** ℘ cent., or **5** ℘ cent. thereof, in order to replace the purchase-money or capital.

☞ The Answers show the value of each £100 of net income in Pounds, as well as the number of years' purchase.

	Interest to be **5** ℘ Cent.			Interest to be **6** ℘ Cent.				Interest to be **7** ℘ Cent.			
	The Re-investments to replace Capital to be made at the rate of			The Re-investments to replace Capital to be made at the rate of				The Re-investments to replace Capital to be made at the rate of			
Years.	**3** ℘ Cent.	**3½** ℘ Cent.	**4** ℘ Cent.	**3** ℘ Cent.	**3½** ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.	**3** ℘ Cent.	**3½** ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.
	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.	Pounds, or Years & Parts.
31	14 28	14 62	14 96	12 50	12 76	13 01	13 49	11 11	11 31	11 51	11 88
32	14 48	14 83	15 16	12 65	12 91	13 17	13 64	11 23	11 44	11 63	12 01
33	14 67	15 02	15 36	12 79	13 06	13 31	13 79	11 34	11 55	11 75	12 12
34	14 85	15 21	15 55	12 93	13 20	13 45	13 93	11 45	11 66	11 86	12 23
35	15 03	15 38	15 73	13 06	13 33	13 59	14 07	11 55	11 76	11 96	12 33
36	15 20	15 55	15 90	13 19	13 46	13 72	14 20	11 65	11 86	12 06	12 43
37	15 36	15 72	16 07	13 31	13 58	13 84	14 32	11 75	11 96	12 16	12 52
38	15 51	15 88	16 22	13 43	13 70	13 96	14 43	11 84	12 05	12 25	12 61
39	15 66	16 03	16 38	13 54	13 81	14 07	14 54	11 93	12 14	12 34	12 69
40	15 81	16 17	16 52	13 65	13 92	14 18	14 65	12 01	12 22	12 42	12 78
41	15 94	16 31	16 66	13 75	14 02	14 28	14 74	12 09	12 30	12 50	12 85
42	16 08	16 45	16 79	13 85	14 12	14 38	14 84	12 17	12 38	12 57	12 92
43	16 21	16 58	16 92	13 95	14 22	14 47	14 93	12 24	12 45	12 64	12 99
44	16 33	16 70	17 04	14 04	14 31	14 56	15 01	12 31	12 52	12 71	13 05
45	16 45	16 82	17 16	14 13	14 40	14 65	15 09	12 38	12 59	12 78	13 11
46	16 57	16 93	17 28	14 21	14 48	14 73	15 17	12 44	12 62	12 84	13 17
47	16 68	17 04	17 38	14 29	14 56	14 81	15 24	12 51	12 71	12 90	13 25
48	16 78	17 15	17 49	14 37	14 64	14 88	15 31	12 57	12 77	12 96	13 28
49	16 89	17 25	17 59	14 45	14 71	14 96	15 37	12 62	12 80	13 01	13 33
50	16 99	17 31	17 68	14 52	14 75	15 02	15 44	12 68	12 88	13 06	13 37
60	17 81	18 15	18 45	15 12	15 36	15 61	15 91	13 13	13 32	13 48	13 73
70	18 40	18 70	18 96	15 53	15 76	15 94	16 21	13 45	13 61	13 75	13 95
80	18 83	19 09	19 30	15 84	16 03	16 18	16 38	13 68	13 81	13 92	14 08
90	19 14	19 36	19 53	16 06	16 22	16 34	16 49	13 84	13 95	14 04	14 16
99	19 34	19 53	19 67	16 21	16 34	16 44	16 55	13 95	14 04	14 11	14 20
100	19 36	19 55	19 68	16 22	16 35	16 44	16 56	13 96	14 05	14 12	14 21

E. G. The present worth of a Lease or Annuity for 21 years, if the purchaser is to make **6** ℘ cent. on the purchase-money, and re-invests the surplus at **3** ℘ cent. to replace capital, is 10 54, or a very little more than 10½ years' purchase of the net income; and the present worth of each £100 of net income is £1054.

If calculated to make **7** ℘ cent. on the purchase-money, and re-invest the surplus at **3½** ℘ cent., the present worth is 9 70, or nearly 9¾ years' purchase of the net income; the present worth of each £100 of net income is £970.

TABLE XVI.

Present Worth of the **Reversion** to £100 payable at the end of any number of years.

☞ By this Table will be seen what present sum of money will, by Compound Interest, amount to £ 100 at the end of any required number of years.

*** See **Pound Decimal Table**, page 79.

Years.	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
1	97·087	96·154	95·238	94·339	93·458	92 592	91·743	90·909	**1**
2	94·259	92·455	90·703	88·999	87·344	85 734	84·168	82·644	2
3	91·514	88·899	86·384	83·962	81·630	79 383	77·218	75·131	3
4	88·849	85·480	82·270	79·209	76·289	73 503	70·842	68·301	4
5	86·261	82·193	78·352	74·726	71·298	68 058	64·993	62·092	5
6	83·748	79·031	74·621	70·496	66·634	63 017	59·627	56·447	6
7	81·309	75·992	71·068	66·506	62·275	58 349	54·703	51·316	7
8	78·941	73·069	67·684	62·741	58·201	54 027	50·186	46·651	8
9	76·641	70·258	64·461	59·190	54·393	50 025	46·043	42·410	9
10	74·409	67·556	61·391	55·839	50·835	46·319	42·241	38·554	**10**
11	72·242	64·958	58·468	52·679	47·509	42·888	38·753	35·049	11
12	70·138	62·460	55·684	49·697	44·401	39·711	35·553	31·863	12
13	68·095	60·057	53·032	46·884	41·496	36·770	32·618	28·966	13
14	66·112	57·747	50·507	44·230	38·782	34·046	29·924	26·333	14
15	64·186	55·526	48·102	41·726	36·244	31·524	27·454	23·939	15
16	62·316	53·391	45·811	39·364	33·873	29·189	25·187	21·763	16
17	60·501	51·337	43·629	37·136	31·657	27·027	23·107	19·784	17
18	58·739	49·363	41·552	35·034	29·586	25·025	21·199	17·986	18
19	57·028	47·464	39·573	33·051	27·651	23·171	19·449	16·351	19
20	55·367	45·638	37·689	31·180	25·842	21·455	17·843	14·864	**20**
21	53·755	43·883	35·894	29·415	24·151	19·865	16·370	13·513	21
22	52·189	42·195	34·185	27·750	22·571	18·394	15·018	12·284	22
23	50·669	40·572	32·557	26·180	21·094	17·031	13·778	11·168	23
24	49·193	39·012	31·007	24·698	19·714	15·770	12·640	10·152	24
25	47·760	37·511	29·530	23·300	18·425	14·602	11·597	9·229	25
26	46·369	36·069	28·124	21·981	17·219	13·520	10·639	8·390	26
27	45·019	34·681	26·785	20·737	16·093	12·518	9·761	7·628	27
28	43·707	33·348	25·509	19·563	15·040	11·591	8·955	6·934	28
29	42·434	32·065	24·294	18·455	14·056	10·733	8·215	6·304	29
30	41·198	30·832	23·138	17·411	13·137	9·938	7·537	5·731	**30**
31	39·999	29·646	22·036	16·425	12·277	9·201	6·915	5·210	31
32	38·834	28·506	20·986	15·496	11·474	8·520	6·344	4·736	32

E.G. The present worth of £ 100 payable at the end of 21 years—at **3** ℘ cent. is £ 53·755, or £ 53. 15*s*. 1*d*.: at **5** ℘ cent. £ 35·894, or £ 35. 17*s*. 10*d*.: at **8** ℘ cent. £19·865, or £19. 17*s*. 4*d*.; and at **10** ℘ cent. only £13·513, or £13. 10*s*. 3*d*.

PRESENT WORTH of the REVERSION to £100 payable at the end of any number of years.

☞ By this Table will be seen what present sum of money will, by Compound Interest, amount to £100 at the end of any required number of years.

⁂ See POUND DECIMAL TABLE, page 79.

Years.	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
33	37·702	27·409	19·987	14·618	10·723	7·889	5·820	4·305	33
34	36·604	26·355	19·035	13·791	10·022	7·304	5·339	3·914	34
35	35·538	25·341	18·129	13·010	9·366	6·763	4·898	3·558	35
36	34·503	24·367	17·266	12·274	8·753	6·262	4·494	3·235	36
37	33·498	23·429	16·443	11·579	8·181	5·798	4·123	2·941	37
38	32·522	22·528	15·660	10·924	7·645	5·369	3·782	2·673	38
39	31·575	21·662	14·915	10·305	7·145	4·971	3·470	2·430	39
40	30·655	20·829	14·204	9·722	6·678	4·603	3·184	2·209	**40**
41	29·763	20·028	13·528	9·172	6·241	4·262	2·921	2·008	41
42	28·896	19·257	12·884	8·653	5·833	3·946	2·680	1·826	42
43	28·054	18·517	12·270	8·163	5·451	3·654	2·458	1·660	43
44	27·237	17·804	11·686	7·701	5·094	3·383	2·255	1·509	44
45	26·444	17·120	11·129	7·265	4·761	3·133	2·069	1·372	45
46	25·673	16·461	10·599	6·854	4·450	2·901	1·898	1·247	46
47	24·926	15·828	10·095	6·466	4·159	2·686	1·741	1·134	47
48	24·200	15·219	9·614	6·100	3·886	2·487	1·598	1·031	48
49	23·495	14·634	9·156	5·754	3·632	2·302	1·466	0·937	49
50	22·811	14·071	8·720	5·429	3·395	2·132	1·345	0·852	**50**
51	22·146	13·530	8·305	5·121	3·172	1·974	1·234	0·774	51
52	21·501	13·009	7·909	4·831	2·965	1·828	1·132	0·704	52
53	20·875	12·509	7·533	4·558	2·771	1·692	1·038	0·640	53
54	20·267	12·028	7·174	4·300	2·590	1·567	0·953	0·582	54
55	19·677	11·565	6·832	4·057	2·420	1·451	0·874	0·529	55
56	19·103	11·121	6·507	3·827	2·262	1·343	0·802	0·481	56
57	18·547	10·693	6·197	3·610	2·114	1·244	0·735	0·437	57
58	18·007	10·282	5·902	3·406	1·976	1·152	0·675	0·397	58
59	17·482	9·886	5·621	3·213	1·846	1·066	0·619	0·361	59
60	16·973	9·506	5·353	3·031	1·726	0·987	0·568	0·328	**60**
61	16·479	9·140	5·098	2·860	1·613	0·914	0·521	0·298	61
62	15·999	8·789	4·856	2·698	1·507	0·846	0·478	0·271	62
63	15·533	8·451	4·624	2·545	1·409	0·784	0·438	0·247	63
64	15·080	8·126	4·404	2·401	1·316	0·726	0·402	0·224	64
65	14·641	7·813	4·194	2·265	1·230	0·672	0·369	0·204	65
66	14·215	7·513	3·995	2·137	1·150	0·622	0·339	0·185	66
67	13·801	7·224	3·804	2·016	1·074	0·576	0·311	0·168	67
68	13·399	6·946	3·623	1·902	1·004	0·533	0·285	0·153	68
69	13·008	6·679	3·451	1·794	0·938	0·494	0·261	0·139	69

E. G. The PRESENT WORTH of £100 payable at the end of 50 years—at **5** ℘ cent. is £8·720, or £8. 14*s.* 5*d.*: at **7** ℘ cent. is £3·395, or £3. 7*s.* 11*d.*: at **8** ℘ cent. £2·132, or £2. 2*s.* 8*d.*; and at **9** ℘ cent. £1·345, or £1. 6*s.* 11*d.*

PRESENT WORTH of the REVERSION to £100 payable at the end of any number of years.

☞ By this Table will be seen what present sum of money will, by Compound Interest, amount to £100 at the end of any required number of years.

⁂ See POUND DECIMAL TABLE, page 79.

Years.	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
70	12·630	6·422	3·286	1·693	0·877	0·457	0·240	0·126	**70**
71	12·262	6·175	3·130	1·597	0·820	0·423	0·220	0·115	71
72	11·905	5·937	2·981	1·506	0·766	0·392	0·202	0·104	72
73	11·558	5·709	2·839	1·421	0·716	0·363	0·185	0·095	73
74	11·221	5·489	2·704	1·341	0·669	0·336	0·170	0·086	74
75	10·894	5·278	2·575	1·265	0·625	0·311	0·156	0·078	75
76	10·577	5·075	2·452	1·193	0·584	0·288	0·143	0·071	76
77	10·269	4·880	2·336	1·126	0·546	0·267	0·131	0·065	77
78	9·970	4·692	2·224	1·062	0·510	0·247	0·120	0·059	78
79	9·679	4·512	2·118	1·002	0·477	0·229	0·110	0·054	79
80	9·398	4·338	2·017	0·945	0·446	0·212	0·101	0·049	**80**
81	9·124	4·171	1·921	0·892	0·417	0·196	0·093	0·044	81
82	8·858	4·011	1·830	0·841	0·389	0·181	0·085	0·040	82
83	8·600	3·857	1·743	0·793	0·364	0·168	0·078	0·036	83
84	8·350	3·708	1·660	0·748	0·340	0·156	0·072	0·033	84
85	8·106	3·566	1·581	0·706	0·318	0·144	0·066	0·030	85
86	7·870	3·429	1·505	0·666	0·297	0·133	0·060	0·027	86
87	7·641	3·297	1·434	0·628	0·278	0·123	0·055	0·025	87
88	7·418	3·170	1·365	0·593	0·259	0·114	0·051	0·023	88
89	7·202	3·048	1·300	0·559	0·242	0·106	0·046	0·021	89
90	6·993	2·931	1·238	0·528	0·227	0·098	0·043	0·019	**90**
91	6·789	2·818	1·180	0·498	0·212	0·091	0·039	0·017	91
92	6·591	2·710	1·123	0·470	0·198	0·084	0·036	0·015	92
93	6·399	2·605	1·070	0·443	0·185	0·078	0·033	0·014	93
94	6·213	2·505	1·019	0·418	0·173	0·072	0·030	0·013	94
95	6·032	2·409	0·970	0·394	0·161	0·067	0·028	0·011	95
96	5·856	2·316	0·924	0·372	0·151	0·062	0·025	0·010	96
97	5·686	2·227	0·880	0·351	0·141	0·057	0·023	0·009	97
98	5·520	2·141	0·838	0·331	0·132	0·053	0·021	0·009	98
99	5·359	2·059	0·798	0·312	0·123	0·049	0·020	0·008	99
100	5·203	1·980	0·760	0·295	0·115	0·045	0·018	0·007	**100**

☞ By changing the decimal point two places to the left, and adding one 0, or two if necessary, the PRESENT WORTH to the REVERSION to £1 may be ascertained.

E. G. The PRESENT WORTH of £100 payable at the end of 71 years—at **3** ℘ cent. is £12·262, or £12. 5*s.* 3*d.*: at **5** ℘ cent. is £3·130, or £3. 2*s.* 7*d.*: at **8** ℘ cent. £0·423, or £0. 8*s.* 5*d.*; and at **10** ℘ cent. only £0·115, or £0. 2*s.* 4*d.*

TABLE XVII.

Present Worth of the Reversion of £100, payable at the Death of a Party of a given age, according to the **Carlisle** Table of Mortality.

N. B. This Table shows the rate of interest which a purchaser may make of his money and replace his capital, provided the Party exists the average duration of Life.

Age.	**3** ℘ Cent.	**3½** ℘ Cent.	**4** ℘ Cent.	**5** ℘ Cent.	**6** ℘ Cent.	**7** ℘ Cent.	**8** ℘ Cent.	Age.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
0	46·641	43·621	41·224	37·700	35·251	33·421	32·015	**0**
1	38·587	35·171	32·483	28·595	25·974	24·079	22·674	**1**
2	34·463	30·826	27·976	23·891	21·179	19·258	17·867	2
3	31·021	27·178	24·173	19·886	17·065	15·097	13·696	3
4	29·267	25·294	22·187	17·757	14·857	12·847	11·430	4
5	28·079	23·997	20·800	16·238	13·255	11·198	9·748	**5**
6	27·633	23·474	20·211	15·548	12·491	10·387	8·904	6
7	27·572	23·355	20·038	15·286	12·163	10·007	8·489	7
8	27·764	23·499	20·137	15·305	12·117	9·916	8·363	8
9	28·125	23·820	20·419	15·514	12·264	10·021	8·430	9
10	28·606	24·269	20·833	15·862	12·558	10·263	8·637	**10**
11	29·145	24·781	21·313	16·281	12·921	10·577	8·919	11
12	29·681	25·288	21·789	16·695	13·277	10·891	9·193	12
13	30·222	25·802	22·272	17·114	13·640	11·211	9·474	13
14	30·771	26·323	22·762	17·543	14·013	11·538	9·763	14
15	31·315	26·840	23·249	17·967	14·381	11·859	10·045	**15**
16	31·833	27·330	23·706	18·362	14·715	12·147	10·289	16
17	32·334	27·802	24·150	18·733	15·026	12·408	10·511	17
18	32·841	28·279	24·590	19·110	15·343	12·677	10·733	18
19	33·362	28·773	25·052	19·505	15·677	12·958	10·970	19
20	33·901	29·285	25·532	19·919	16·028	13·259	11·222	**20**
21	34·455	29·814	26·031	20·352	16·402	13·579	11·496	21
22	35·037	30·374	26·562	20·819	16·809	13·933	11·807	22
23	35·637	30·954	27·115	21·310	17·240	14·312	12·141	23
24	36·252	31·555	27·690	21·824	17·692	14·711	12·496	24
25	36·808	32·179	28·289	22·367	18·174	15·136	12·874	**25**
26	37·548	32·813	28·901	22·919	18·672	15·581	13·267	26
27	38·218	33·471	29·538	23·500	19·198	16·052	13·689	27
28	38·890	34·132	30·176	24·086	19·725	16·529	14·119	28
29	39·531	34·759	30·781	24·633	20·211	16·962	14·504	29

E. G. The Reversion to £100 payable at the death of 20—at **4** ℘ cent. is worth £25·532, or £25. 10*s*. 8*d*.: at **5** ℘ cent. £19·919, or £19. 18*s*. 4*d*.; and at **7** ℘ cent. £13·259, or £13. 5*s*. 2*d*.

TABLE XVII.—*continued.*

Present Worth of the Reversion of £100, payable at the Death of a Party of a given age, according to the **Carlisle** Table of Mortality.

N. B. This Table shows the rate of interest which a purchaser may make of his money and replace his capital, provided the Party exists the average duration of Life.

Age.	**3** ⅌ Cent.	**3½** ⅌ Cent.	**4** ⅌ Cent.	**5** ⅌ Cent.	**6** ⅌ Cent.	**7** ⅌ Cent.	**8** ⅌ Cent.	Age.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
30	40·129	35·340	31·338	25·129	20·642	17·335	14·830	**30**
31	40·734	35·929	31·903	25·633	21·083	17·714	15·155	31
32	41·357	36·539	32·491	26·162	21·547	18·120	15·504	32
33	42·010	37·182	33·113	26·729	22·051	18·564	15·889	33
34	42·694	37·858	33·771	27·333	22·594	19·049	16·319	34
35	43·399	38·560	34·457	27·967	23·172	19·565	16·778	**35**
36	44·117	39·287	35·170	28·633	23·783	20·115	17·274	36
37	44·870	40·029	35·901	29·319	24·411	20·684	17·793	37
38	45·624	40·787	36·649	30·024	25·062	21·279	18·326	38
39	46·393	41·562	37·416	30·752	25·736	21·894	18·889	39
40	47·156	42·332	38·178	31·477	26·404	22·509	19·444	**40**
41	47·893	43·073	38·911	32·167	27·038	23·085	19·963	41
42	48·621	43·806	39·636	32·852	27·666	23·648	20·467	42
43	49·352	44·543	40·364	33·538	28·294	24·210	20·971	43
44	50·108	45·304	41·120	34·257	28·957	24·805	21·504	44
45	50·885	46·092	41·905	35·010	29·653	25·440	22·074	**45**
46	51·694	46·919	42·734	35·810	30·400	26·127	22·696	46
47	52·542	47·788	43·607	36·662	31·204	26·873	23·378	47
48	53·439	48·711	44·542	37·586	32·087	27·697	24·141	48
49	54·406	49·715	45·565	38·610	33·077	28·639	25·030	49
50	55·429	50·782	46·658	39·714	34·164	29·679	26·022	**50**
51	56·509	51·914	47·824	40·905	35·347	30·831	27·126	51
52	57·598	53·060	49·008	42·124	36·558	32·015	28·267	52
53	58·699	54·222	50·211	43·371	37·804	33·238	29·459	53
54	59·812	55·399	51·436	44·648	39·089	34·507	30·696	54
55	60·948	56·605	52·694	45·967	40·431	35·842	32·007	**55**
56	62·096	57·830	53·977	47·319	41·812	37·229	33·370	56
57	63·260	59·077	55·286	48·710	43·243	38·668	34·800	57
58	64·413	60·315	56·591	50·105	44·687	40·121	36·252	58
59	65·512	61·494	57·833	51·433	46·062	41·514	37·644	59

E. G. The Reversion to £100 payable at the death of 52—at **4** ⅌ cent. is worth £49·008, or £49. 0*s.* 2*d.*: at **5** ⅌ cent. £42·124, or £42. 2*s.* 6*d.*; and at **8** ⅌ cent. £28·267, or £28. 5*s.* 4*d.*

TABLE XVII.—*continued.*

PRESENT WORTH of the REVERSION of £100, payable at the DEATH of a Party of a given age, according to the CARLISLE Table of Mortality.

N.B. This Table shows the rate of interest which a purchaser may make of his money and replace his CAPITAL, provided the Party exists the average duration of Life.

Age.	3 ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	7 ꝑ Cent.	8 ꝑ Cent.	Age.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
60	66·531	62·589	58·987	52·667	47·336	42·803	38·926	**60**
61	67·436	63·559	60·007	53·752	48·445	43·922	40·036	61
62	68·325	64·513	61·012	54·824	49·549	45·027	41·133	62
63	69·222	65·480	62·033	55·914	50·676	46·165	42·259	63
64	70·157	66·490	63·103	57·067	51·875	47·389	43·481	64
65	71·112	67·526	64·203	58·262	53·126	48·664	44·763	**65**
66	72·103	68·599	65·347	59·510	54·440	50·012	46·133	66
67	73·122	69·713	66·539	60·824	55·832	51·451	47·593	67
68	74·168	70·859	67·770	62·186	57·287	52·969	49·141	68
69	75·246	72·041	69·043	63·605	58·809	54·565	50·793	69
70	76·340	73·248	70·349	65·067	60·389	56·234	52·519	**70**
71	77·465	74·496	71·701	66·595	62·053	58·000	54·371	71
72	78·525	75·671	72·979	68·043	63·638	59·687	56·134	72
73	79·483	76·733	74·136	69·357	65·075	61·225	57·748	73
74	80·334	77·675	75·161	70·524	66·355	62·586	59·178	74
75	81·033	78·458	76·004	71·481	67·396	63·698	60·333	**75**
76	81·717	79·211	76·831	72·419	68·421	64·791	61·481	76
77	82·352	79·915	77·597	73·291	69·377	65·805	62·548	77
78	82·996	80·631	78·378	74·181	70·351	66·851	63·645	78
79	83·713	81·433	79·256	75·191	71·472	68·055	64·919	79
80	84·374	82·172	80·066	76·119	72·502	69·167	66·096	**80**
81	85·090	82·976	80·950	77·148	73·645	70·410	67·422	81
82	85·734	83·698	81·745	78·067	74·675	71·529	68·615	82
83	86·392	84·439	82·561	79·019	75·740	72·693	69·859	83
84	87·027	85·154	83·352	79·948	76·781	73·838	71·089	84
85	87·682	85·894	84·173	80·910	77·874	75·042	72·393	**85**
86	88·253	86·542	84·891	81·762	78·836	76·108	73·548	86
87	88·719	87·071	85·477	82·452	79·628	76·978	74·496	87
88	89·002	87·390	85·833	82·870	80·101	77·502	75·067	88
89	89·325	87·758	86·242	83·357	80·658	79·078	75·733	89
90	89·809	88·308	86·861	84·103	81·513	79·196	76·793	**90**

☞ If the REVERSION of £1 be required, remove the decimal point two places to the left.

E. G. The REVERSION to £100 payable at the death of 72—at **4** ꝑ cent. is worth £72·979, or £72. 19*s.* 7*d.*: at **5** ꝑ cent. £68·043, or £68. 0*s.* 10*d.*: at **6** ꝑ cent. £63·638, or £63. 12*s.* 9*d.*

TABLE XVIII.

Annuity or Annual Sinking Fund to be set aside and accumulated at Compound Interest, in order to provide £100 at the end of any given number of years.

☞ By this Table may be readily seen what sum should be reserved annually—either during a Lease to meet a Fine payable at its Renewal or at the end of a certain number of years, or to form a Fund for Endowment of Children, &c.

Years.	3 ꝑ Cent.	3¼ ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	4½ ꝑ Cent.	5 ꝑ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
1	100·000	100·000	100·000	100·000	100·000	100·000	**1**
2	49·261	49·200	49·140	49·019	48·900	48·780	2
3	32·353	32·273	32·193	32·035	31·877	31·721	3
4	23·903	23·814	23·725	23·549	23·374	23·201	4
5	18·835	18·741	18·648	18·463	18·279	18·097	5
6	15·460	15·363	15·267	15·076	14·888	14·702	6
7	13·050	12·952	12·854	12·661	12·470	12·282	7
8	11·245	11·146	11·047	10·853	10·661	10·472	8
9	9·843	9·743	9·644	9·449	9·257	9·069	9
10	8·723	8·623	8·524	8·329	8·138	7·950	**10**
11	7·808	7·708	7·609	7·415	7·225	7·039	11
12	7·046	6·947	6·848	6·655	6·466	6·282	12
13	6·403	6·304	6·206	6·014	5·827	5·645	13
14	5·852	5·754	5·657	5·467	5·282	5·102	14
15	5·376	5·279	5·182	4·994	4·811	4·634	15
16	4·961	4·864	4·768	4·582	4·401	4·227	16
17	4·595	4·499	4·404	4·220	4·042	3·870	17
18	4·271	4·175	4·081	3·899	3·724	3·554	18
19	3·981	3·887	3·794	3·614	3·441	3·274	19
20	3·721	3·628	3·536	3·358	3·187	3·024	**20**
21	3·487	3·394	3·303	3·128	2·960	2·799	21
22	3·275	3·183	3·093	2·920	2·754	2·597	22
23	3·081	2·990	2·902	2·731	2·568	2·414	23
24	2·905	2·815	2·727	2·559	2·399	2·247	24
25	2·743	2·654	2·567	2·401	2·244	2·095	25
26	2·594	2·506	2·420	2·257	2·102	1·956	26
27	2·456	2·369	2·285	2·124	1·972	1·829	27
28	2·329	2·243	2·160	2·001	1·852	1·712	28
29	2·211	2·126	2·044	1·888	1·741	1·604	29
30	2·102	2·018	1·937	1·783	1·639	1·505	**30**
31	2·000	1·917	1·837	1·685	1·544	1·413	31
32	1·904	1·823	1·744	1·595	1·456	1·328	32
33	1·815	1·735	1·657	1·510	1·374	1·249	33
34	1·732	1·652	1·576	1·431	1·298	1·175	34

E.G. Required the Annual Sum which should be put aside to form a Fund to replace £100 paid for the Premium of a Lease for 21 years. At 3 ꝑ cent. it is £3·487, or £3. 9*s.* 9*d.*: at 5 ꝑ cent. it is £2·799, or very nearly £2. 16s.

TABLE XVIII.—*continued.*

ANNUITY OR ANNUAL SINKING FUND to be set aside and accumulated at Compound Interest, in order to provide £100 at the end of any given number of years.

☞ By this Table may be readily seen what sum should be reserved annually—either during a LEASE to meet a FINE payable at its Renewal or at the end of a certain number of years, or to form a FUND for ENDOWMENT of CHILDREN, &c.

Years.	3 ⅌ Cent.	3¼ ⅌ Cent.	3½ ⅌ Cent.	4 ⅌ Cent.	4½ ⅌ Cent.	5 ⅌ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
35	1·654	1·575	1·500	1·358	1·227	1·107	35
36	1·580	1·503	1·428	1·289	1·160	1·043	36
37	1·511	1·434	1·361	1·224	1·098	0·984	37
38	1·446	1·370	1·298	1·163	1·040	·928	38
39	1·384	1·310	1·239	1·106	0·985	·876	39
40	1·326	1·253	1·183	1·052	·934	·828	**40**
41	1·271	1·199	1·130	1·002	·886	·782	41
42	1·219	1·148	1·080	0·954	·841	·739	42
43	1·170	1·099	1·032	·909	·798	·699	43
44	1·123	1·053	0·988	·866	·758	·661	44
45	1·078	1·010	·945	·826	·720	·626	45
46	1·036	0·969	·905	·788	·684	·593	46
47	0·996	·929	·867	·752	·651	·561	47
48	·958	·892	·830	·718	·619	·532	48
49	·921	·857	·796	·686	·589	·504	49
50	·886	·823	·763	·655	·560	·477	**50**
51	·853	·791	·732	·626	·533	·453	51
52	·822	·760	·702	·598	·508	·429	52
53	·791	·731	·674	·572	·483	·407	53
54	·762	·703	·647	·547	·460	·387	54
55	·735	·676	·621	·523	·439	·366	55
56	·708	·650	·597	·500	·418	·348	56
57	·683	·626	·573	·479	·398	·330	57
58	·659	·603	·551	·458	·380	·313	58
59	·635	·580	·529	·439	·362	·298	59
60	·613	·559	·509	·420	·345	·283	**60**
61	·592	·538	·489	·402	·329	·268	61
62	·571	·519	·470	·385	·314	·255	62
63	·551	·500	·452	·369	·300	·242	63
64	·533	·482	·435	·354	·286	·230	64
65	·514	·464	·419	·339	·273	·219	65
66	·497	·448	·403	·325	·260	·208	66
67	·480	·432	·388	·311	·249	·198	67
68	·464	·416	·373	·298	·237	·188	68
69	·448	·402	·359	·286	·227	·179	69
70	·433	·388	·346	·274	·216	·170	**70**
71	·419	·374	·333	·263	·207	·161	71
72	·405	·361	·321	·252	·197	·153	72
73	·392	·348	·309	·242	·188	·146	73
74	·379	·336	·298	·232	·180	·139	74

TABLE XVIII.—*continued.*

Annuity or Annual Sinking Fund to be set aside and accumulated at Compound Interest, in order to provide £100 at the end of any given number of years.

☞ By this Table may be readily seen what sum should be reserved annually—either during a **Lease** to meet a **Fine** payable at its Renewal or at the end of a certain number of years, or to form a **Fund** for **Endowment** of **Children**, &c.

Years.	3 ℘ Cent.	3¼ ℘ Cent.	3½ ℘ Cent.	4 ℘ Cent.	4½ ℘ Cent.	5 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
75	0·367	0·325	0·287	0·223	0·172	0·132	75
76	·355	·313	·276	·214	·164	·126	76
77	·343	·303	·266	·205	·157	·119	77
78	·332	·292	·257	·197	·150	·114	78
79	·321	·282	·247	·189	·143	·108	79
80	·311	·273	·238	·181	·137	·103	**80**
81	·301	·263	·230	·174	·131	·098	81
82	·291	·254	·221	·167	·125	·093	82
83	·282	·246	·213	·160	·119	·089	83
84	·273	·237	·206	·154	·114	·084	84
85	·264	·229	·198	·148	·109	·080	85
86	·256	·222	·191	·142	·104	·076	86
87	·248	·214	·185	·136	·100	·073	87
88	·240	·207	·178	·131	·095	·069	88
89	·233	·200	·172	·126	·091	·066	89
90	·225	·193	·166	·121	·087	·063	**90**
91	·218	·187	·160	·116	·083	·060	91
92	·212	·181	·154	·111	·080	·057	92
93	·205	·175	·149	·107	·076	·054	93
94	·199	·169	·143	·103	·073	·051	94
95	·192	·163	·138	·099	·070	·049	95
96	·186	·158	·134	·095	·067	·046	96
97	·181	·153	·129	·091	·064	·044	97
98	·175	·148	·124	·087	·061	·042	98
99	·170	·143	·120	·084	·058	·040	99
100	·164	·138	·116	·081	·056	·038	**100**

⁂ In case the Annuity to provide £1 is required, change the decimal point two places to the left, adding one 0, or two if necessary.

☞ The Annual Sum to be put aside for any Amount of Premium, or outlay for Repairs, &c., may be readily ascertained, if more than £100, by multiplying the total outlay by the figures opposite the number of years for which the Lease is to be held. From the result cut off 5 figures, which are the decimal parts of a pound; the value of the 3 first decimals will be found in the **Pound Decimal Table** (page 69), the 2 last are of no value.

For instance: A person has expended £841 in Premiums and Expenses on a Property held on Lease for 40 years. If he considers the rate of interest to be 3 ℘ cent., opposite 40 years is found £1·326, which, multiplied by £841, produces £11·15166. Abandoning the 2 last figures, we find by the **Pound Decimal Table** ·151 = 3*s.*: therefore the Annual Sum to be put aside as a Sinking Fund for 40 years, to replace the £841, is £11. 3*s.*

TABLE XIX.

The **Amount** to which £100 will accumulate at **Compound Interest** in any number of years not exceeding 100.

*** See Pound Decimal Table, page 79.

Years.	3 ℘ Cent.	3¼ ℘ Cent.	3½ ℘ Cent.	4 ℘ Cent.	4½ ℘ Cent.	5 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
1	103·000	103·250	103·500	104·000	104·500	105·000	**1**
2	106·090	106·605	107·122	108·160	109·202	110·250	2
3	109·273	110·070	110·872	112·486	114·116	115·762	3
4	112·551	113·647	114·752	116·986	119·252	121·550	4
5	115·927	117·341	118·768	121 665	124·618	127·628	**5**
6	119·405	121·155	122·925	126·532	130·226	134·009	6
7	122·987	125·092	127·228	131·593	136·086	140·710	7
8	126·677	129·158	131·681	136·857	142·210	147·745	8
9	130·477	133·355	136·290	142·331	148·609	155·133	9
10	134·391	137·689	141·060	148·024	155·297	162·889	**10**
11	138·423	142·164	145·997	153·945	162·285	171·034	11
12	142·576	146·784	151·107	160·103	169·588	179·585	12
13	146·853	151·555	156·395	166·507	177·219	188·565	13
14	151·259	156·481	161·869	173·167	185·194	197·993	14
15	155·797	161·566	167·535	180·094	193·528	207·893	**15**
16	160·470	166·817	173·398	187·298	202·237	218·287	16
17	165·285	172·239	179·467	194·790	211·337	229·202	17
18	170·243	177·836	185·749	202·581	220·848	240·662	18
19	175·350	183·616	192·250	210·685	230·786	252·695	19
20	180·611	189·584	198·979	219·112	241·171	265·330	**20**
21	186·029	195·745	205·943	227·877	252·024	278·596	21
22	191·610	202·107	213·151	236·992	263·365	292·526	22
23	197·358	208·675	220·611	246·471	275·216	307·152	23
24	203·279	215·457	228·333	256·330	287·601	322·510	24
25	209·378	222·460	236·324	266·583	300·543	338·635	**25**
26	215·659	229·690	244·596	277·247	314·068	355·567	26
27	222·129	237·154	253·157	288·337	328·201	373·345	27
28	228·793	244·862	262·017	299·870	342·970	392·013	28
29	235·656	252·820	271·188	311·865	358·403	411·613	29
30	242·726	261·037	280·679	324·340	374·532	432·194	**30**
31	250·008	269·520	290·503	337·313	391·386	453·804	31
32	257·508	278·280	300·671	350·806	408·998	476·494	32
33	265·233	287 324	311·194	364·838	427·403	500·319	33
34	273·190	296·662	322·086	379·431	446·636	525·335	34

E. G. If £100 be improved at Compound Interest for 20 years, it will amount

at **3** ℘ cent. to £180·611, or £180. 12*s.* 3*d.*

4 „ to £219·112, or £219. 2*s.* 3*d.*

5 „ to £265·330, or £265. 6*s.* 7*d.*

TABLE XIX.—*continued.*

The **Amount** to which £100 will accumulate at **Compound Interest** in any number of years not exceeding 100.

*** See Pound Decimal Table, page 79.

Years.	3 ⅌ Cent.	3¼ ⅌ Cent.	3½ ⅌ Cent.	4 ⅌ Cent.	4½ ⅌ Cent.	5 ⅌ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
35	281·386	306·303	333·359	394·609	466·735	551·601	**35**
36	289·828	316·258	345·026	410·393	487·738	579·181	36
37	298·522	326·537	357·102	426·809	509·686	608·140	37
38	307·478	337·149	369·601	443·881	532·622	638·548	38
39	316·702	348·106	382·537	461·636	556·590	670·475	39
40	326·204	359·420	395·926	480·102	581·636	703·999	**40**
41	335·990	371·101	409·783	499·306	607·810	739·199	41
42	346·069	383·162	424·126	519·278	635·161	776·159	42
43	356·451	395·615	438·970	540·049	663·744	814·966	43
44	367·145	408·472	454·334	561·651	693·612	855·715	44
45	378·159	421·747	470·236	584·117	724·825	898·501	**45**
46	389·504	435·454	486·694	607·482	757·442	943·426	46
47	401·189	449·607	503·728	631·781	791·527	990·597	47
48	413·225	464·219	521·359	657·053	827·145	1040·127	48
49	425·622	479·306	539·606	683·335	864·367	1092·133	49
50	438·390	494·883	558·492	710·668	903·263	1146·740	**50**
51	451·542	510·967	578·040	739·095	943·910	1204·077	51
52	465·088	527·574	598·271	768·659	986·386	1264·281	52
53	479·041	544·720	619·211	799·405	1030·774	1327·495	53
54	493·412	562·423	640·883	831·381	1077·158	1393·869	54
55	508·215	580·702	663·314	864·636	1125·631	1463·563	**55**
56	523·461	599·575	686·530	899·222	1176·284	1536·741	56
57	539·165	619·061	710·558	935·191	1229·217	1613·578	57
58	555·340	639·180	735·428	972·598	1284·532	1694·257	58
59	572·000	659·954	761·168	1011·502	1342·335	1778·970	59
60	589·160	681·402	787·809	1051·963	1402·741	1867·918	**60**
61	606·835	703·548	815·382	1094·041	1465·864	1961·314	61
62	625·040	726·413	843·921	1137·803	1531·828	2059·380	62
63	643·791	750·021	873·458	1183·315	1600·760	2162·349	63
64	663·105	774·397	904·029	1230·647	1672·794	2270·467	64
65	682·998	799·565	935·670	1279·873	1748·070	2383·990	**65**
66	703·488	825·551	968·418	1331·068	1826·733	2503·189	66
67	724·593	852·381	1002·313	1384·311	1908·936	2628·349	67
68	746·330	880·084	1037·394	1439·683	1994·838	2759·766	68
69	768·720	908·686	1073·703	1497·271	2084·606	2897·755	69

E. G. **If £100 be improved at Compound Interest for 50 years, it will amount**

at 3 ⅌ cent. to £ 438·390, or £ 438. 8*s*. 9*d*.

4 „ to £ 710·668, or £ 710. 13*s*. 4*d*.

5 „ to £ 1146·740, or £ 1146. 14*s*. 10*d*.

TABLE XIX.—*continued.*

The AMOUNT to which £ 100 will accumulate at COMPOUND INTEREST in any number of years not exceeding 100.

⁂ See POUND DECIMAL TABLE, page 79.

Years.	**3** ꝑ Cent.	**3¼** ꝑ Cent.	**3½** ꝑ Cent.	**4** ꝑ Cent.	**4½** ꝑ Cent.	**5** ꝑ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
70	791·782	938·219	1111·282	1557·162	2178·413	3042·642	**70**
71	815·535	968·711	1150·177	1619·448	2276·442	3194·774	71
72	840·002	1000·194	1190·433	1684·226	2378·882	3354·513	72
73	865·202	1032·700	1232·099	1751·595	2485·932	3522·239	73
74	891·158	1066·263	1275·222	1821·659	2597·798	3698·351	74
75	917·892	1100·917	1319·855	1894·525	2714·699	3883·268	**75**
76	945·429	1136·697	1366·050	1970·306	2836·861	4077·432	76
77	973·792	1173·639	1413·862	2049·119	2964·520	4281·303	77
78	1003·006	1211·782	1463·347	2131·083	3097·923	4495·369	78
79	1033·096	1251·165	1514·564	2216·327	3237·330	4720·137	79
80	1064·089	1291·828	1567·574	2304·980	3383·009	4956·144	**80**
81	1096·012	1333·813	1622·439	2397·179	3535·245	5203·951	81
82	1128·892	1377·162	1679·224	2493·066	3694·331	5464·149	82
83	1162·759	1421·919	1737·997	2592·789	3860·576	5737·356	83
84	1197·641	1468·132	1798·827	2696·500	4034·302	6024·224	84
85	1233·571	1515·846	1861·786	2804·360	4215·845	6325·435	**85**
86	1270·578	1565·111	1926·948	2916·535	4405·558	6641·707	86
87	1308·695	1615·977	1994·391	3033·196	4603·808	6973·792	87
88	1347·956	1668·496	2064·195	3154·524	4810·980	7322·482	88
89	1388·395	1722·723	2136·442	3280·705	5027·474	7688·606	89
90	1430·047	1778·711	2211·217	3411·933	5253·710	8073·036	**90**
91	1472·948	1836·519	2288·610	3548·410	5490·127	8476·688	91
92	1517·136	1896·206	2368·711	3690·347	5737·183	8900·523	92
93	1562·650	1957·833	2451·616	3837·961	5995·356	9345·549	93
94	1609·530	2021·462	2537·423	3991·479	6265·147	9812·826	94
95	1657·816	2087·160	2626·233	4151·138	6547·079	10303·467	**95**
96	1707·550	2154·992	2718·151	4317·184	6841·698	10818·641	96
97	1758·777	2225·030	2813·286	4489·871	7149·574	11359·573	97
98	1811·540	2297·343	2911·751	4669·466	7471·305	11927·552	98
99	1865·886	2372·007	3013·662	4856·245	7807·513	12523·929	99
100	1921·863	2449·097	3119·141	5050·495	8158·852	13150·126	**100**

☞ If the amount of £ 1. be required, remove the decimal point two places to the left.

E.G. If £ 100 be improved at COMPOUND INTEREST for 70 years, it will amount

at **3** ꝑ cent. to £ 791·782, or £ 791. 15*s.* 8*d.*

4 „ to £ 1557·162, or £ 1557. 3*s.* 3*d.*

5 „ to £ 3042·642, or £ 3042. 12*s.* 10*d.*

TABLE XX.

COMPOUND INTEREST.

TABLE showing the accumulating power of MONEY at different Rates of COMPOUND INTEREST, when the same is payable either YEARLY, HALF-YEARLY, or QUARTERLY.

NOMINAL RATE OF INTEREST.	PAYABLE.	THE AMOUNT OF £100 IN				
		1 Year.	5 Years.	25 Years.	50 Years.	100 Years.
		£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.
2 ℔ cent.	Yearly	102·000	110·408	164·061	269·159	724·465
	Half-yearly	102·010	110·462	164·463	270·481	731·602
	Quarterly	102·015	110·490	164·667	271·152	735·232
3 ℔ cent.	Yearly	103·000	115·927	209·378	438·391	1921·863
	Half-yearly	103·022	116·054	210·524	443·204	1964·303
	Quarterly	103·034	116·119	211·108	445·667	1986·195
4 ℔ cent.	Yearly	104·000	121·665	266·584	710·668	5050·495
	Half-yearly	104·040	121·899	269·159	724·465	5248·490
	Quarterly	104·060	122·019	270·481	731·602	5352 411
5 ℔ cent.	Yearly	105·000	127·628	338·634	1146·740	13150·126
	Half-yearly	105·062	128·008	343·711	1181·372	13956·389
	Quarterly	105·095	128·204	346·340	1199·517	14388·409
6 ℔ cent.	Yearly	106·000	133·823	429·187	1842·015	33930·202
	Half-yearly	106·090	134·392	438·391	1921·863	36935·580
	Quarterly	106·136	134·685	443·204	1964·303	38584·862
7 ℔ cent.	Yearly	107·000	140·255	542·743	2945·703	86771·633
	Half-yearly	107·122	141·060	558·493	3119·141	97290·391
	Quarterly	107·186	141·478	566·816	3212·799	103220·776
8 ℔ cent.	Yearly	108·000	146·933	684·847	4690·161	219976·126
	Half-yearly	108·160	148·024	710·668	5050·495	255074·976
	Quarterly	108·243	148·595	724·465	5248·490	275466·456
9 ℔ cent.	Yearly	109·000	153·862	862·308	7435·752	552904·079
	Half-yearly	109·202	155·297	903·264	8158·851	665668·600
	Quarterly	109·308	156·051	925·405	8563·738	733375·950
10 ℔ cent.	Yearly	110·000	161·051	1083·471	11739·085	1378061·234
	Half-yearly	110·250	162·889	1146·740	13150·126	1729258·207
	Quarterly	110·381	163·862	1181·372	13956·389	1947807·892

TABLE XXI.

The **Amount** to which an **Annuity** of £1 ⅌ annum will accumulate at Compound Interest in any number of years not exceeding 100.

*** See **Pound Decimal Table**, page 79.

Years.	3 ⅌ Cent.	3¼ ⅌ Cent.	3½ ⅌ Cent.	4 ⅌ Cent.	4½ ⅌ Cent.	5 ⅌ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
1	1·000	1·000	1·000	1·000	1·000	1·000	**1**
2	2·030	2·032	2·035	2·040	2·045	2·050	2
3	3·091	3·098	3·106	3·121	3·137	3·152	3
4	4·183	4·199	4·215	4·246	4·278	4·310	4
5	5·309	5·336	5·362	5·416	5·471	5·525	**5**
6	6·468	6·509	6·550	6·633	6·717	6·802	6
7	7·662	7·720	7·779	7·898	8·019	8·142	7
8	8·892	8·971	9·051	9·214	9·380	9·549	8
9	10·159	10·263	10·368	10·583	10·802	11·026	9
10	11·464	11·597	11·731	12·006	12·288	12·578	**10**
11	12·808	12·973	13·142	13·486	13·841	14·207	11
12	14·192	14·395	14·602	15·026	15·464	15·917	12
13	15·618	15·863	16·113	16·627	17·160	17·713	13
14	17·086	17·378	17·677	18·292	18·932	19·598	14
15	18·599	18·943	19·295	20·023	20·784	21·578	**15**
16	20·157	20·559	20·971	21·824	22·719	23·657	16
17	21·761	22·227	22·705	23·697	24·742	25·840	17
18	23·414	23·950	24·499	25·645	26·855	28·132	18
19	25·117	25·728	26·357	27·671	29·063	30·539	19
20	26·870	27·564	28·279	29·778	31·371	33·066	**20**
21	28·676	29·460	30·269	31·969	33·783	35·719	21
22	30·537	31·417	32·329	34·248	36·303	38·505	22
23	32·453	33·438	34·460	36·618	38·937	41·430	23
24	34·426	35·525	36·666	39·082	41·689	44·502	24
25	36·459	37·680	38·950	41·646	44·565	47·727	**25**
26	38·553	39·904	41·313	44·312	47·570	51·113	26
27	40·709	42·201	43·759	47·084	50·711	54·669	27
28	42·931	44·573	46·290	49·967	53·993	58·402	28
29	45·219	47·021	48·911	52·966	57·423	62·323	29
30	47·575	49·550	51·622	56·085	61·007	66·439	**30**
31	50·002	52·160	54·429	59·328	64·752	70·761	31
32	52·503	54·855	57·334	62·701	68·666	75·299	32
33	55·078	57·638	60·341	66·209	72·756	80·064	33
34	57·730	60·511	63·453	69·858	77·030	85·067	34

E. G. An **Annuity** of £1 ⅌ annum, accumulated for 21 years, will amount

at **4** ⅌ cent. to £31·969, or £31. 19*s.* 4*d.*

5 „ to £35·719, or £35. 14*s.* 4*d.*

TABLE XXI.—*continued.*

The Amount to which an Annuity of £ 1 ℘ annum will accumulate at Compound Interest in any number of years not exceeding 100.

*** See Pound Decimal Table, page 79.

Years.	3 ℘ Cent.	3¼ ℘ Cent.	3½ ℘ Cent.	4 ℘ Cent.	4½ ℘ Cent.	5 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
35	60·462	63·478	66·674	73·652	81·496	90·320	**35**
36	63·276	66·541	70·007	77·598	86·164	95·836	36
37	66·174	69·703	73·458	81·702	91·041	101·628	37
38	69·159	72·969	77·029	85·970	96·138	107·709	38
39	72·234	76·340	80·725	90·409	101·464	114·095	39
40	75·401	79·821	84·550	95·025	107·030	120·800	**40**
41	78·663	83·416	88·509	99·826	112·846	127·840	41
42	82·023	87·127	92·607	104·819	118·925	135·232	42
43	85·484	90·958	96·848	110·012	125·276	142·993	43
44	89·048	94·914	101·238	115·413	131·914	151·143	44
45	92·720	98·999	105·781	121·029	138·850	159·700	**45**
46	96·501	103·217	110·484	126·870	146·098	168·685	46
47	100·396	107·571	115·351	132·945	153·672	178·119	47
48	104·408	112·067	120·388	139·263	161·588	188·025	48
49	108·540	116·709	125·602	145·834	169·859	198·426	49
50	112·797	121·502	130·998	152·667	178·503	209·348	**50**
51	117·181	126·451	136·583	159·774	187·535	220·815	51
52	121·696	131·561	142·363	167·165	196·975	232·856	52
53	126·347	136·837	148·346	174·851	206·838	245·499	53
54	131·137	142·284	154·538	182·845	217·146	258·774	54
55	136·071	147·908	160·947	191·159	227·918	272·712	**55**
56	141·154	153·715	167·580	199·805	239·174	287·348	56
57	146·388	159·711	174·445	208·798	250·937	302·715	57
58	151·780	165·901	181·551	218·149	263·229	318·851	58
59	157·333	172·293	188·905	227·875	276·074	335·794	59
60	163·053	178·893	196·517	237·990	289·498	353·584	**60**
61	168·945	185·707	204·395	248·510	303·525	372·263	61
62	175·013	192·742	212·549	259·451	318·184	391·876	62
63	181·264	200·006	220·988	270·829	333·502	412·470	63
64	187·702	207·507	229·722	282·662	349·510	434·093	64
65	194·333	215·251	238·763	294·968	366·238	456·798	**65**
66	201·163	223·246	248·119	307·767	383·718	480·638	66
67	208·197	231·502	257·804	321·078	401·986	505·670	67
68	215·443	240·026	267·827	334·921	421·075	531·953	68
69	222·907	248·826	278·201	349·318	441·023	559·551	69

E.G. An Annuity of £1 ℘ annum, accumulated for 50 years, will amount at 4 ℘ cent. to £ 152·667, or £ 152. 13*s.* 4*d.*

5 „ to £ 209·348, or £ 209. 7*s.* 0*d.*

TABLE XXI.—*continued.*

The Amount to which an Annuity of £1 ℘ annum will accumulate at Compound Interest in any number of years not exceeding 100.

*** See Pound Decimal Table, page 79.

Years.	3 ℘ Cent.	3¼ ℘ Cent.	3½ ℘ Cent.	4 ℘ Cent.	4½ ℘ Cent.	5 ℘ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
70	230·594	257·913	288·938	364·290	461·869	588·528	**70**
71	238·512	267·296	300·050	379·862	483·654	618·955	71
72	246·667	276·983	311·552	396·056	506·418	650·902	72
73	255·067	286·985	323·457	412·899	530·207	684·448	73
74	263·719	297·312	335·778	430·415	555·066	719·670	74
75	272·631	307·974	348·530	448·631	581·044	756·654	**75**
76	281·810	318·983	361·728	467·576	608·191	795·486	76
77	291·264	330·350	375·389	487·279	636·560	836·261	77
78	301·002	342·087	389·527	507·771	666·205	879·074	78
79	311·032	354·205	404·161	529·082	697·184	924·027	79
80	321·363	366·716	419·307	551·245	729·557	971·229	**80**
81	332·004	379·635	434·982	574·295	763·388	1020·790	81
82	342·964	392·973	451·207	598·266	798·740	1072·830	82
83	354·253	406·744	467·999	623·197	835·683	1127·471	83
84	365·880	420·963	485·379	649·125	874·289	1184·845	84
85	377·857	435·645	503·367	676·090	914·632	1245·087	**85**
86	390·192	450·803	521·985	704·134	956·791	1308·341	86
87	402·898	466·454	541·255	733·299	1000·846	1374·758	87
88	415·985	482·614	561·198	763·631	1046·884	1444·496	88
89	429·465	499·299	581·840	795·176	1094·994	1517·721	89
90	443·349	516·526	603·205	827·983	1145·269	1594·607	**90**
91	457·649	534·313	625·317	862·102	1197·806	1675·337	91
92	472·379	552·679	648·203	897·587	1252·707	1760·104	92
93	487·550	571·641	671·890	934·490	1310·079	1849·110	93
94	503·177	591·219	696·406	972·870	1370·033	1942·565	94
95	519·272	611·434	721·781	1012·784	1432·684	2040·693	**95**
96	535·850	632·305	748·043	1054·296	1498·155	2143·728	96
97	552·925	653·855	775·224	1097·468	1566·572	2251·914	97
98	570·513	676·105	803·357	1142·366	1638·068	2365·510	98
99	588·629	699·079	832·475	1189·061	1712·781	2484·786	99
100	607·288	722·799	862·611	1237·624	1790·856	2610·025	**100**

E. G. An Annuity of £1 ℘ annum, accumulated for 80 years, will amount

at **3** ℘ cent. to £321·363, or £321. 7*s.* 3*d.*

4 „ to £551·245, or £551. 4*s.* 11*d.*

5 „ to £971·229, or £971. 4*s.* 7*d.*

TABLE XXII.

The ANNUITY which £100 will purchase for any number of years not exceeding 100.

☞ **By this Table may be readily seen what is the increase of Rent for a Premium paid for a Lease, or money expended in repairs.**

N. B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Years.	3 ℔ Cent.	3½ ℔ Cent.	4 ℔ Cent.	5 ℔ Cent.	6 ℔ Cent.	7 ℔ Cent.	8 ℔ Cent.	10 ℔ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
1	103·000	103·500	104·000	105·000	106·000	107·000	108·000	110·000	**1**
2	52·261	52·640	53·019	53·780	54·543	55·309	56·077	57·619	2
3	35·353	35·693	36·035	36·721	37·411	38·105	38·803	40·211	3
4	26·903	27·225	27·549	28·201	28·859	29·523	30·192	31·547	4
5	21·835	22·148	22·463	23·097	23·739	24·389	25·045	26·380	**5**
6	18·460	18·767	19·076	19·702	20·336	20·979	21·631	22·961	6
7	16·050	16·354	16·661	17·282	17·913	18·555	19·207	20·540	7
8	14·245	14·547	14·853	15·472	16·103	16·747	17·401	18·744	8
9	12·843	13·144	13·449	14·069	14·702	15·348	16·008	17·364	9
10	11·723	12·024	12·329	12·950	13·587	14·238	14·903	16·274	**10**
11	10·808	11·109	11·415	12·039	12·679	13·335	14·007	15·396	11
12	10·046	10·348	10·655	11·282	11·928	12·590	13·269	14·676	12
13	9·403	9·706	10·014	10·645	11·296	11·965	12·652	14·078	13
14	8·852	9·157	9·467	10·102	10·758	11·434	12·129	13·574	14
15	8·376	8·682	8·994	9·634	10·296	10·979	11·683	13·147	**15**
16	7·961	8·268	8·582	9·227	9·895	10·586	11·297	12·781	16
17	7·595	7·904	8·220	8·870	9·544	10·242	10·963	12·466	17
18	7·271	7·581	7·899	8·554	9·235	9·941	10·670	12·193	18
19	6·981	7·294	7·614	8·274	8·962	9·675	10·413	11·954	19
20	6·721	7·036	7·358	8·024	8·718	9·439	10·185	11·746	**20**
21	6·487	6·803	7·128	7·799	8·500	9·229	9·983	11·562	21
22	6·275	6·593	6·920	7·597	8·304	9·040	9·803	11·400	22
23	6·081	6·402	6·731	7·413	8·128	8·871	9·642	11·257	23
24	5·905	6·227	6·558	7·247	7·968	8·719	9·498	11·130	24
25	5·743	6·067	6·401	7·095	7·822	8·581	9·368	11·017	**25**
26	5·594	5·920	6·257	6·956	7·690	8·456	9·251	10·916	26
27	5·456	5·785	6·124	6·829	7·570	8·342	9·145	10·826	27
28	5·329	5·660	6·001	6·712	7·459	8·239	9·049	10·745	28
29	5·211	5·544	5·888	6·604	7·358	8·145	8·962	10·673	29
30	5·102	5·437	5·783	6·505	7·265	8·058	8·883	10·608	**30**
31	5·000	5·337	5·685	6·413	7·179	7·979	8·811	10·549	31
32	4·904	5·244	5·595	6·328	7·100	7·907	8·745	10·497	32
33	4·815	5·157	5·510	6·249	7·027	7·841	8·685	10·450	33
34	4·732	5·076	5·431	6·175	6·960	7·779	8·630	10·407	34

E. G. £100 will purchase an ANNUITY for 20 years—

at 3 ℔ cent. of £6·721, or £6. 14*s*. 5*d*.

5 „ of £8·024, or £8. 0*s*. 6*d*.

6 „ of £8·718, or £8. 14*s*. 4*d*.

TABLE XXII.—*continued.*

The ANNUITY which £100 will purchase for any number of years not exceeding 100.

☞ **By this Table may be readily seen what is the increase of Rent for a Premium paid for a Lease, or money expended in repairs.**

N. B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY, at the same rate of interest.

Years.	3 ℔ Cent.	3½ ℔ Cent.	4 ℔ Cent.	5 ℔ Cent.	6 ℔ Cent.	7 ℔ Cent.	8 ℔ Cent.	10 ℔ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
35	4·654	5·000	5·358	6·107	6·897	7·723	8·580	10·369	**35**
36	4·580	4·928	5·288	6·043	6·839	7·671	8·534	10·334	36
37	4·511	4·861	5·224	5·984	6·786	7·623	8·492	10·303	37
38	4·446	4·798	5·163	5·928	6·736	7·579	8·454	10·274	38
39	4·384	4·739	5·106	5·876	6·689	7·538	8·418	10·249	39
40	4·326	4·683	5·052	5·828	6·646	7·501	8·386	10·226	**40**
41	4·271	4·630	5·002	5·782	6·606	7·466	8·356	10·205	41
42	4·219	4·580	4·954	5·739	6·568	7·433	8·328	10·186	42
43	4·170	4·532	4·909	5·699	6·533	7·403	8·303	10·169	43
44	4·123	4·488	4·866	5·661	6·500	7·376	8·280	10·153	44
45	4·078	4·445	4·826	5·626	6·470	7·350	8·259	10·139	**45**
46	4·036	4·405	4·788	5·593	6·441	7·326	8·239	10·126	46
47	3·996	4·367	4·752	5·561	6·415	7·304	8·221	10·114	47
48	3·958	4·330	4·718	5·532	6·390	7·283	8·204	10·104	48
49	3·921	4·296	4·686	5·504	6·366	7·264	8·188	10·094	49
50	3·886	4·263	4·655	5·477	6·344	7·246	8·174	10·086	**50**
51	3·853	4·232	4·626	5·453	6·324	7·229	8·161	10·078	51
52	3·822	4·202	4·598	5·429	6·304	7·214	8·149	10·071	52
53	3·791	4·174	4·572	5·407	6·286	7·199	8·138	10·064	53
54	3·762	4·147	4·547	5·386	6·269	7·186	8·127	10·058	54
55	3·735	4·121	4·523	5·366	6·253	7·173	8·118	10·053	**55**
56	3·708	4·097	4·500	5·348	6·239	7·162	8·109	10·048	56
57	3·683	4·073	4·479	5·330	6·225	7·151	8·101	10·044	57
58	3·659	4·051	4·458	5·313	6·211	7·141	8·093	10·040	58
59	3·635	4·029	4·439	5·298	6·199	7·131	8·086	10·036	59
60	3·613	4·009	4·420	5·283	6·187	7·123	8·080	10·033	**60**
61	3·592	3·989	4·402	5·268	6·176	7·115	8·074	10·030	61
62	3·571	3·970	4·385	5·255	6·166	7·107	8·068	10·027	62
63	3·551	3·952	4·369	5·242	6·157	7·100	8·063	10·025	63
64	3·533	3·935	4·354	5·230	6·147	7·093	8·058	10 022	64
65	3·514	3·919	4·339	5·219	6·139	7·087	8·054	10·020	**65**
66	3·497	3·903	4·325	5·208	6·131	7·081	8·050	10·018	66
67	3·480	3·888	4·311	5·198	6·123	7·076	8·046	10·017	67
68	3·464	3·873	4·298	5·188	6·116	7·071	8·043	10·015	68
69	3·448	3·859	4·286	5·179	6·109	7·066	8·040	10·014	69

E. G. £100 will purchase an ANNUITY for 50 years—

at **3** ℔ cent. of £3·886, or £3. 17*s.* 9*d.*

5 „ of £5·477, or £5. 9*s.* 7*d.*

6 „ of £6·344, or £6. 6*s.* 11*d.*

The Annuity which £100 will purchase for any number of years not exceeding 100.

☞ **By this Table may be readily seen what is the increase of Rent for a Premium paid for a Lease, or money expended in repairs.**

N.B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the purchase-money, at the same rate of interest.

Years.	3 ⅌ Cent.	3½ ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.	7 ⅌ Cent.	8 ⅌ Cent.	10 ⅌ Cent.	Years.
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
70	3·433	3·846	4·274	5·170	6·103	7·062	8·037	10·012	**70**
71	3·419	3·833	4·263	5·161	6·097	7·058	8·034	10·011	71
72	3·405	3·821	4·252	5·153	6·092	7·054	8·031	10·010	72
73	3·392	3·809	4·242	5·146	6·086	7·050	8·029	10·009	73
74	3·379	3·798	4·232	5·139	6·081	7·047	8·027	10·008	74
75	3·367	3·787	4·223	5·132	6·077	7·044	8·025	10·008	**75**
76	3·355	3·776	4·214	5·126	6·072	7·041	8·023	10·007	76
77	3·343	3·766	4·205	5·119	6·068	7·038	8·021	10·006	77
78	3·332	3·757	4·197	5·114	6·064	7·036	8·020	10·006	78
79	3·321	3·747	4·189	5·108	6·061	7·033	8·018	10·005	79
80	3·311	3·738	4·181	5·103	6·057	7·031	8·017	10·005	**80**
81	3·301	3·730	4·174	5·098	6·054	7·029	8·016	10·004	81
82	3·291	3·721	4·167	5·093	6·051	7·027	8·014	10·004	82
83	3·282	3·713	4·160	5·088	6·048	7·025	8·013	10·003	83
84	3·273	3·706	4·154	5·084	6·045	7·024	8·012	10·003	84
85	3·264	3·698	4·148	5·080	6·042	7·022	8·011	10·003	**85**
86	3·256	3·691	4·142	5·076	6·040	7·021	8·010	10·003	86
87	3·248	3·685	4·136	5·073	6·038	7·019	8·010	10·002	87
88	3·240	3·678	4·131	5·069	6·036	7·018	8·009	10·002	88
89	3·233	3·672	4·126	5·066	6·034	7·017	8·008	10·002	89
90	3·225	3·666	4·121	5·063	6·032	7·016	8·008	10·002	**90**
91	3·218	3·660	4·116	5·059	6·030	7·015	8·007	10·002	91
92	3·211	3·654	4·111	5·057	6·028	7·014	8·007	10·001	92
93	3·205	3·649	4·107	5·054	6·027	7·013	8·006	10·001	93
94	3·199	3·643	4·103	5·051	6·025	7·012	8·006	10·001	94
95	3·192	3·638	4·099	5·049	6·024	7·011	8·005	10·001	**95**
96	3·186	3·633	4·095	5·046	6·022	7·010	8·005	10·001	96
97	3·181	3·629	4·091	5·044	6·021	7·010	8·004	10·001	97
98	3·175	3·624	4·087	5·042	6·020	7·009	8·004	10·001	98
99	3·170	3·620	4·084	5·040	6·019	7·008	8·004	10·001	99
100	3·164	3·616	4·081	5·038	6·018	7·008	8·003	10·001	**100**

☞ **By changing the decimal point two places to the left, and prefixing an 0 if necessary, the Annuity which £1 will purchase may be ascertained.**

E. G. **£100 will purchase an Annuity for 80 years—**

at 3 ⅌ cent. of £3·311, or £3. 6*s*. 3*d*.
5 „ of £5·103, or £5. 2*s*. 1*d*.
6 „ of £6·057, or £6. 1*s*. 2*d*.

TABLE XXIII.

PRESENT WORTH of the PERPETUITY of £100 FINE payable at every Interval of Years stated below.

Interval of Years being	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	8 ℘ Cent.	10 ℘ Cent.	Interval of Years being
	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	£. Parts.	
2	1642·04	1225·49	975·61	809·06	600·96	476·19	2
3	1078·43	800·87	634·42	523·52	385·04	302·11	3
4	796·76	588·72	464·02	380·99	277·40	215·47	4
5	627·85	461·57	361·95	295·66	213·07	163·80	5
6	515·32	376·90	294·03	238·94	170·39	129·61	6
7	435·02	316·52	245·64	198·56	140·09	105·41	7
10	290·77	208·23	159·01	126·45	86·29	62·75	10
14	195·09	136·67	102·05	79·31	51·62	35·75	14
20	124·05	83·95	60·49	45·31	27·32	17·46	20
21	116·24	78·20	55·99	41·67	24·79	15·62	21
40	44·21	26·31	16·56	10·77	4·83	2·26	40

E. G. The PRESENT WORTH of the PERPETUITY of £100 Fine, payable every 7 years on renewing lease, is at **4** ℘ cent. £316·52, or £316. 10*s*. 5*d*.
at **5** „ £245·64, or £245. 12*s*. 10*d*.

As the above values are immediately *after* a Fine has been paid for Renewal, if the Landlord's Interest is to be valued, at an interval, say, of 3 years after the last Fine, then 3 years' Compound Interest must be added to the value.

☞ Copyhold Estates of Inheritance liable to Fine on Death or Alienation have been hitherto considered equivalent in value to an Estate renewable every 7 years at a Fine certain.

TABLE XXIV.

AMOUNT of FINE to be paid for RENEWING any number of years lapsed in a LEASE originally granted for 10 years.

☞ The Answers show the FINE for each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a party may make of his money, provided he can re-invest the surplus at the same rate of interest, so as to replace the FINE at the end of the LEASE.

Years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.									Years.
	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	£17·950 ℘ Cent.	
	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	Years. Pts.	
1	74	67	61	56	51	46	42	38	19	1
2	1 51	1 38	1 26	1 15	1 05	96	88	81	42	2
3	2 30	2 11	1 93	1 78	1 63	1 50	1 38	1 27	68	3
4	3 11	2 87	2 64	2 44	2 26	2 09	1 93	1 79	1 00	4
5	3 95	3 66	3 39	3 15	2 92	2 72	2 53	2 35	1 37	5
6	4 81	4 48	4 17	3 89	3 63	3 40	3 18	2 97	1 81	6
7	5 70	5 33	5 00	4 69	4 40	4 13	3 88	3 66	2 32	7
8	6 61	6 22	5 86	5 52	5 21	4 92	4 66	4 41	2 93	8
9	7 56	7 15	6 77	6 41	6 09	5 78	5 50	5 23	3 65	9
Total	8 53	8 11	7 72	7 36	7 02	6 71	6 42	6 14	4 50	Total

E. G. The FINE a Tenant should pay for the RENEWAL of 4 years lapsed in a LEASE of 10 years, in order that he may make **5** ℘ cent. on the money advanced, is 2 64, or nearly 2⅔ years' purchase of the NET INCOME; and the Fine for each £100 of NET INCOME is £264.

TABLE XXV.

AMOUNT of FINE to be paid for RENEWING any number of years lapsed in a LEASE originally granted for 20 years.

☞ The Answers show the FINE for each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a party may make of his money, provided he can re-invest the surplus at the same rate of interest, so as to replace the FINE at the end of the Lease.

	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR OF NET INCOME.									
Years.	3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.	7 ℘ Cent.	8 ℘ Cent.	9 ℘ Cent.	10 ℘ Cent.	£12·304 ℘ Cent.	Years.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
1	55	45	38	31	26	21	18	15	10	1
2	1 12	93	77	64	53	44	37	31	21	2
3	1 71	1 42	1 19	99	83	69	58	49	33	
4	2 31	1 94	1 62	1 36	1 15	97	81	69	47	4
5	2 94	2 47	2 08	1 76	1 48	1 26	1 07	91	63	5
6	3 58	3 03	2 56	2 17	1 85	1 57	1 34	1 15	80	6
7	4 24	3 60	3 07	2 62	2 24	1 91	1 64	1 41	1 00	7
8	4 92	4 20	3 60	3 08	2 65	2 28	1 97	1 70	1 22	8
9	5 62	4 83	4 15	3 58	3 09	2 68	2 32	2 02	1 47	9
10	6 35	5 48	4 74	4 11	3 57	3 11	2 71	2 37	1 75	10
11	7 09	6 15	5 35	4 67	4 08	3 57	3 13	2 75	2 06	11
12	7 86	6 86	6 00	5 26	4 62	4 07	3 59	3 18	2 41	12
13	8 65	7 59	6 67	5 89	5 20	4 61	4 09	3 64	2 81	13
14	9 46	8 35	7 38	6 55	5 83	5 19	4 64	4 16	3 25	14
15	10 30	9 14	8 13	7 26	6 49	5 82	5 24	4 72	3 75	15
16	11 16	9 96	8 91	8 00	7 21	6 50	5 89	5 34	4 31	16
17	12 05	10 81	9 74	8 80	7 97	7 24	6 60	6 02	4 94	17
18	12 96	11 70	10 60	9 63	8 78	8 03	7 37	6 78	5 64	18
19	13 91	12 63	11 51	10 52	9 66	8 89	8 21	7 60	6 44	19
Total	14 88	13 59	12 46	11 47	10 59	9 82	9 13	8 51	7 33	Total

E. G. The FINE a Tenant should pay for the RENEWAL of 7 years lapsed in a Lease of 20 years, in order that he may make **5** ℘ cent. on the money advanced, is 3 07, or a little more than 3 years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £307.—If calculated at **6** ℘ cent., the FINE would be 2 62, or very nearly 2⅝ years' purchase; and the FINE for each £100 of NET INCOME is £262.

TABLE XXVI.

AMOUNT of FINE to be paid for RENEWING any number of years lapsed in a LEASE originally granted for 21 years.

☞ The Answers show the FINE for each £100 of NET INCOME, as well as the number of years' purchase.

N.B. This Table shows the rate of interest which a party may make of his money, provided he can re-invest the surplus at the same rate of interest, so as to replace the FINE at the end of the Lease.

	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR OF NET INCOME.									
Years.	3 ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	7 ꝑ Cent.	8 ꝑ Cent.	9 ꝑ Cent.	10 ꝑ Cent.	£11·564 ꝑ Cent.	Years.
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
1	54	44	36	29	24	20	16	13	10	1
2	1 09	89	73	60	50	41	34	28	21	2
3	1 66	1 37	1 13	93	77	64	54	45	34	3
4	2 25	1 86	1 55	1 29	1 07	89	75	63	48	4
5	2 85	2 38	1 98	1 66	1 39	1 16	98	82	63	5
6	3 48	2 91	2 44	2 05	1 73	1 46	1 23	1 04	80	6
7	4 12	3 46	2 92	2 47	2 09	1 77	1 50	1 28	1 00	7
8	4 78	4 04	3 43	2 91	2 48	2 11	1 80	1 54	1 21	8
9	5 46	4 64	3 96	3 38	2 89	2 48	2 13	1 83	1 46	9
10	6 16	5 27	4 51	3 88	3 34	2 88	2 49	2 15	1 72	10
11	6 88	5 92	5 10	4 40	3 81	3 31	2 87	2 50	2 02	11
12	7 63	6 59	5 71	4 96	4 32	3 77	3 30	2 89	2 36	12
13	8 39	7 29	6 36	5 55	4 86	4 27	3 76	3 31	2 73	13
14	9 18	8 03	7 03	6 18	5 44	4 81	4 26	3 78	3 15	14
15	10 00	8 79	7 74	6 85	6 07	5 39	4 80	4 29	3 61	15
16	10 83	9 58	8 49	7 55	6 73	6 02	5 40	4 86	4 13	16
17	11 70	10 40	9 27	8 30	7 45	6 70	6 05	5 48	4 71	17
18	12 58	11 25	10 10	9 09	8 21	7 44	6 76	6 16	5 36	18
19	13 50	12 14	10 96	9 93	9 03	8 23	7 53	6 91	6 08	19
20	14 44	13 07	11 87	10 82	9 90	9 09	8 37	7 74	6 88	20
Total	15 41	14 03	12 82	11 76	10 83	10 02	9 29	8 65	7 78	Total

E. G. The FINE a Tenant should pay for the RENEWAL of 7 years lapsed in a Lease of 21 years, in order that he may make 5 ꝑ cent. on the money advanced, is 2 92, or nearly 3 years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £292.—If calculated at 6 ꝑ cent., the FINE would be 2 47, or nearly 2½ years' purchase; and the FINE for each £100 of NET INCOME is £247.

TABLE XXVII.

AMOUNT of FINE to be paid for RENEWING any number of years lapsed in a LEASE originally granted for 40 years.

☞ The Answers show the FINE for each £100 of NET INCOME, as well as the number of years' purchase.

N. B. This Table shows the rate of interest which a party may make of his money, provided he can re-invest the surplus, beyond the available interest, at the same rate, so as to replace the FINE at the end of the LEASE.

Years.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR OF NET INCOME.								Years.
	3 ℔ Cent.	4 ℔ Cent.	5 ℔ Cent.	6 ℔ Cent.	7 ℔ Cent.	8 ℔ Cent.	9 ℔ Cent.	10 ℔ Cent.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
1	30	21	14	10	07	04	03	02	1
2	62	42	29	20	14	09	06	05	2
3	95	65	45	31	21	15	10	07	3
4	1 28	88	61	42	30	21	14	10	4
5	1 63	1 13	78	55	38	27	19	13	5
6	1 98	1 38	96	68	48	34	24	17	6
7	2 35	1 64	1 16	81	58	41	29	21	7
8	2 72	1 92	1 35	96	68	49	35	25	8
9	3 11	2 20	1 56	1 12	80	57	41	30	9
10	3 51	2 50	1 78	1 28	92	66	48	35	10
11	3 92	2 81	2 02	1 45	1 05	76	56	41	11
12	4 35	3 13	2 26	1 64	1 19	87	64	47	12
13	4 79	3 46	2 51	1 83	1 34	99	73	54	13
14	5 24	3 81	2 78	2 04	1 50	1 11	83	62	14
15	5 70	4 17	3 06	2 26	1 68	1 25	93	70	15
16	6 18	4 54	3 36	2 49	1 86	1 39	1 05	79	16
17	6 67	4 93	3 67	2 74	2 06	1 55	1 18	89	17
18	7 18	5 34	3 99	3 00	2 27	1 72	1 31	1 01	18
19	7 70	5 76	4 34	3 28	2 50	1 91	1 46	1 13	19
20	8 24	6 20	4 70	3 57	2 74	2 10	1 63	1 26	20
21	8 79	6 66	5 07	3 89	3 00	2 32	1 81	1 41	21
22	9 36	7 13	5 47	4 22	3 27	2 55	2 00	1 58	22
23	9 95	7 63	5 88	4 57	3 57	2 80	2 21	1 76	23
24	10 55	8 14	6 32	4 94	3 88	3 07	2 44	1 95	24
25	11 17	8 67	6 78	5 33	4 22	3 36	2 70	2 17	25
26	11 82	9 23	7 26	5 75	4 59	3 68	2 97	2 41	26
27	12 48	9 81	7 76	6 19	4 97	4 02	3 27	2 67	27
28	13 16	10 41	8 29	6 66	5 39	4 39	3 59	2 96	28
29	13 86	11 03	8 85	7 16	5 83	4 78	3 95	3 28	29
30	14 58	11 68	9 44	7 68	6 31	5 21	4 34	3 63	30
31	15 33	12 36	10 05	8 24	6 82	5 68	4 76	4 02	31
32	16 09	13 06	10 69	8 83	7 36	6 18	5 22	4 44	32
33	16 88	13 79	11 37	9 46	7 94	6 72	5 72	4 91	33
34	17 70	14 55	12 08	10 13	8 56	7 30	6 27	5 42	34
35	18 53	15 34	12 83	10 83	9 23	7 93	6 87	5 99	35
36	19 40	16 16	13 61	11 58	9 94	8 61	7 52	6 61	36
37	20 28	17 02	14 43	12 37	10 71	9 35	8 22	7 29	37
38	21 20	17 90	15 30	13 21	11 52	10 14	9 00	8 04	38
39	22 14	18 83	16 20	14 10	12 40	11 00	9 84	8 87	39
Total	23 11	19 79	17 16	15 04	13 33	11 92	10 76	9 78	Total

E. G. The FINE a Tenant should pay for the RENEWAL of 14 years lapsed in a Lease of 40 years, in order that he may make 6 ℔ cent. on the money advanced, is 2 04, or a very little more than 2 years' purchase of the NET INCOME; and the Fine for each £100 of NET INCOME is £204.

TABLE XXVIII.

AMOUNT of FINE to be paid for RENEWING with ONE LIFE the LEASE of an ESTATE originally granted on THREE LIVES, according to the CARLISLE Table of Mortality.

☞ The Answers show the amount of FINE for each £100 of NET INCOME, as well as the number of years' purchase such FINE amounts to.

N B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY outstanding, at the same rate of interest.

Life put in.	Ages of Lives in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.				Ages of Lives in Possession.	Life put in.
		3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
10	10 10	1 23	77	48	31	10 10	10
	10 20	1 55	98	62	41	10 20	
	10 30	1 90	1 22	80	53	10 30	
	10 40	2 28	1 49	98	66	10 40	
	10 50	2 64	1 76	1 18	81	10 50	
	10 60	3 02	2 06	1 43	1 02	10 60	
	10 70	3 26	2 27	1 63	1 19	10 70	
	15 15	1 59	1 01	64	43	15 15	
	15 25	1 97	1 26	80	53	15 25	
	15 35	2 40	1 56	1 03	69	15 35	
	15 45	2 85	1 87	1 26	87	15 45	
	15 55	3 27	2 21	1 51	1 06	15 55	
	15 65	3 63	2 51	1 75	1 27	15 65	
	15 75	3 86	2 72	1 96	1 45	15 75	
	20 20	1 98	1 26	80	52	20 20	
	20 30	2 47	1 60	1 03	69	20 30	
	20 40	2 99	1 96	1 30	88	20 40	
	20 50	3 46	2 26	1 57	1 09	20 50	
	20 60	3 95	2 71	1 89	1 35	20 60	
	20 70	4 27	2 98	2 15	1 58	20 70	
	25 25	2 51	1 62	1 05	69	25 25	
	25 35	3 11	2 03	1 34	89	25 35	
	25 45	3 68	2 39	1 64	1 13	25 45	
	25 55	4 26	2 89	1 99	1 41	25 55	
	25 65	4 73	3 28	2 31	1 68	25 65	
	25 75	5 04	3 55	2 57	1 90	25 75	
	30 30	3 18	2 08	1 37	92	30 30	
	30 40	3 88	2 56	1 73	1 19	30 40	
	30 50	4 53	3 06	2 10	1 47	30 50	
	30 60	5 19	3 67	2 52	1 81	30 60	
	30 70	5 61	3 95	2 85	2 10	30 70	

E.G. The FINE a Tenant should pay for putting in a NEW LIFE, aged 10, in a LEASE originally granted on THREE LIVES, one of which has dropped, and the ages of the LIVES in possession being 30 and 60, in order to allow him 4 ℘ cent. interest on his money, is 3 67, or 3⅔ years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £367.

If calculated at 6 ℘ cent., the FINE is 1 81, or rather more than 1¾ year's purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £181.

AMOUNT of FINE to be paid for RENEWING with ONE LIFE the LEASE of an ESTATE originally granted on THREE LIVES, according to the CARLISLE Table of Mortality.

☞ The Answers show the amount of FINE for each £100 of NET INCOME, as well as the number of years' purchase such FINE amounts to.

N. B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY outstanding, at the same rate of interest.

Life put in.	Ages of Lives in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.				Ages of Lives in Possession.	Life put in.
		3 ⅌ Cent.	4 ⅌ Cent.	5 ⅌ Cent.	6 ⅌ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
10	35 35	3 93	2 59	1 74	1 19	35 35	10
	35 45	4 74	3 17	2 15	1 49	35 45	
	35 55	5 54	3 80	2 65	1 89	35 55	
	35 65	6 15	4 30	3 06	2 23	35 65	
	35 75	6 55	4 65	3 38	2 52	35 75	
	40 40	4 85	3 25	2 20	1 53	40 40	
	40 50	5 81	3 97	2 74	1 94	40 50	
	40 60	6 71	4 69	3 35	2 43	40 60	
	40 70	7 28	5 18	3 76	2 79	40 70	
	45 45	5 89	4 01	2 78	1 96	45 45	
	45 55	7 07	4 93	3 50	2 54	45 55	
	45 65	7 93	5 64	4 08	3 02	45 65	
	45 75	8 46	6 10	4 48	3 37	45 75	
	50 50	7 20	5 02	3 55	2 56	50 50	
	50 60	8 56	6 11	4 43	3 28	50 60	
	50 70	9 41	6 83	5 04	3 80	50 70	
	55 55	8 83	6 32	4 60	3 42	55 55	
	55 65	10 22	7 47	5 56	4 22	55 65	
	55 75	11 13	8 26	6 25	4 82	55 75	
	60 60	10 58	7 76	5 80	4 41	60 60	
	60 70	12 03	9 00	6 86	5 33	60 70	
	65 65	12 24	9 16	6 98	5 42	65 65	
	65 75	13 73	10 46	8 13	6 44	65 75	
	70 70	14 16	10 83	8 45	6 71	70 70	
	75 75	15 92	12 41	9 87	7 99	75 75	
15	20 20	1 66	1 09	73	49	20 20	15
	20 30	2 10	1 39	94	65	20 30	
	20 40	2 56	1 72	1 18	82	20 40	
	20 50	3 01	2 05	1 43	1 01	20 50	
	20 60	3 48	2 43	1 74	1 27	20 60	
	20 70	3 80	2 70	1 96	1 45	20 70	

E. G. The FINE a Tenant should pay for putting in a NEW LIFE, aged 15, in a LEASE originally granted on THREE LIVES, one of which has dropped, and the ages of the Lives in possession being 20 and 70, in order to allow him 4 ⅌ cent. interest on his money, is 2 70, or nearly 2¾ years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £270.

If calculated at 5 ⅌ cent., the FINE is 1 96, or very nearly 2 years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £196.

TABLE XXVIII.—*continued.*

AMOUNT of FINE to be paid for RENEWING with ONE LIFE the LEASE of an ESTATE originally granted on THREE LIVES, according to the CARLISLE Table of Mortality.

☞ The Answers show the amount of FINE for each £100 of NET INCOME, as well as the number of years' purchase such FINE amounts to.

N.B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY outstanding, at the same rate of interest.

Life put in.	Ages of Lives in Possession.	Years' Purchase, or Pounds for each £100 a Year.				Ages of Lives in Possession.	Life put in.
		3 ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
15	30 30	2 72	1 81	1 24	86	30 30	15
	30 40	3 37	2 27	1 56	1 09	30 40	
	30 50	3 99	2 73	1 90	1 35	30 50	
	30 60	4 62	3 24	2 33	1 70	30 60	
	30 70	5 04	3 60	2 62	1 95	30 70	
	40 40	4 28	2 91	2 03	1 43	40 40	
	40 50	5 19	3 59	2 53	1 81	40 50	
	40 60	6 06	4 29	3 11	2 28	40 60	
	40 70	6 62	4 77	3 51	2 62	40 70	
	50 50	6 52	4 59	3 30	2 40	50 50	
	50 60	7 84	5 66	4 16	3 10	50 60	
	50 70	8 67	6 36	4 76	3 62	50 70	
	60 60	9 80	7 27	5 48	4 20	60 60	
	60 70	11 22	8 47	6 52	5 10	60 70	
	70 70	13 31	10 27	8 08	6 46	70 70	
20	20 20	1 39	93	63	43	20 20	20
	20 30	1 75	1 19	82	57	20 30	
	20 40	2 17	1 49	1 03	73	20 40	
	20 50	2 58	1 79	1 26	90	20 50	
	20 60	3 04	2 16	1 57	1 16	20 60	
	20 70	3 34	2 42	1 79	1 35	20 70	
	30 30	2 29	1 56	1 09	1 77	30 30	
	30 40	2 88	1 98	1 38	98	30 40	
	30 50	3 45	2 40	1 70	1 22	30 50	
	30 60	4 06	2 90	2 11	1 56	30 60	
	30 70	4 47	3 25	2 40	1 81	30 70	
	40 40	3 70	2 57	1 80	1 29	40 40	
	40 50	4 56	3 20	2 28	1 66	40 50	
	40 60	5 41	3 89	2 84	2 11	40 60	
	40 70	5 95	4 35	3 24	2 45	40 70	

E.G. The FINE a Tenant should pay for putting in a NEW LIFE, aged 15, in a LEASE originally granted for THREE LIVES, one of which has dropped, and the ages of the Lives in possession being 60 and 70, in order to allow him 4 ꝑ cent. interest on his money, is 8 47, or very nearly 8½ years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £847.

If calculated at 6 ꝑ cent., the FINE is 5 10, or very little above 5 years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £510.

AMOUNT of FINE to be paid for RENEWING with ONE LIFE the LEASE of an ESTATE originally granted on THREE LIVES, according to the CARLISLE Table of Mortality.

☞ **The Answers show the amount of FINE for each £100 of NET INCOME, as well as the number of years' purchase such FINE amounts to.**

N.B. This Table shows the rate of interest which a purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY outstanding, at the same rate of interest.

Life put in.	Ages of Lives in Possession.	YEARS' PURCHASE, OR POUNDS FOR EACH £100 A YEAR.				Ages of Lives in Possession.	Life put in.
		3 ℘ Cent.	4 ℘ Cent.	5 ℘ Cent.	6 ℘ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
20	50 50	5 82	4 16	3 01	2 21	50 50	20
	50 60	7 11	5 20	3 86	2 91	50 60	
	50 70	7 92	5 89	4 44	3 41	50 70	
	60 60	9 03	6 76	5 15	3 98	60 60	
	60 70	10 42	7 95	6 17	4 86	60 70	
	70 70	12 47	9 72	7 70	6 20	70 70	
30	30 30	1 48	1 10	81	60	30 30	30
	30 40	1 93	1 39	1 01	75	30 40	
	30 50	2 32	1 72	1 26	93	30 50	
	30 60	2 93	2 17	1 64	1 25	30 60	
	30 70	3 31	2 49	1 91	1 48	30 70	
	40 40	2 53	1 83	1 34	99	40 40	
	40 50	3 23	2 35	1 74	1 29	40 50	
	40 60	4 01	2 98	2 25	1 71	40 60	
	40 70	4 51	3 41	2 62	2 03	40 70	
	50 50	4 30	3 16	2 36	1 77	50 50	
	50 60	5 49	4 13	3 14	2 42	50 60	
	50 70	6 25	4 77	3 69	2 89	50 70	
	60 60	7 26	5 58	4 34	3 42	60 60	
	60 70	8 57	6 70	5 31	4 25	60 70	
	70 70	10 52	8 39	6 77	5 53	70 70	
40	40 40	1 54	1 16	90	69	40 40	40
	40 50	1 98	1 50	1 15	88	40 50	
	40 60	2 64	2 03	1 59	1 25	40 60	
	40 70	3 08	2 42	1 92	1 53	40 70	
	50 50	2 75	2 04	1 62	1 25	50 50	
	50 60	3 77	2 93	2 29	1 81	50 60	
	50 70	4 46	3 51	2 80	2 24	50 70	
	60 60	5 30	4 20	3 35	2 70	60 60	
	60 70	6 51	5 23	4 25	3 48	60 70	
	70 70	8 33	6 81	5 62	4 68	70 70	

E. G. The FINE a Tenant should pay for putting in a NEW LIFE, aged 30, in a LEASE originally granted on THREE LIVES, one of which has dropped, and the ages of the Lives in possession being 40 and 60, in order to allow him 5 ℘ cent. interest on his money, is 2 25, or 2¼ years' purchase of the NET INCOME, and the FINE for each £100 of NET INCOME is £225.

If calculated at 6 ℘ cent., the FINE is 1 71, or nearly 1¾ year's purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £171.

TABLE XXIX.

Amount of Fine to be paid for Renewing with Two Lives the Lease of an Estate originally granted on Three Lives, according to the CARLISLE Table of Mortality.

☞ The Answers show the amount of FINE for each £100 of NET INCOME, as well as the number of years' purchase such FINE amounts to.

N.B. This Table shows the rate of interest which the purchaser may make of his money, provided he can re-invest the surplus income, beyond the interest on the PURCHASE-MONEY outstanding, at the same rate of interest.

Ages of the Lives to be put in.	Age of the Life in Possession.	Years' Purchase, or Pounds for each £100 a Year.				Age of the Life in Possession.	Ages of the Lives to be put in.
		3 ℔ Cent.	4 ℔ Cent.	5 ℔ Cent.	6 ℔ Cent.		
		Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.		
10 & 10	20	6 19	4 30	3 07	2 26	20	10 & 10
	30	8 00	5 61	4 05	3 01	30	
	40	10 19	7 24	5 27	3 94	40	
	50	12 84	9 31	6 89	5 23	50	
	60	16 57	12 45	9 57	7 52	60	
	70	19 90	15 37	12 17	9 83	70	
10 & 15	25	6 76	4 75	3 42	2 55	25	10 & 15
	35	8 69	6 17	4 49	3 36	35	
	45	11 05	7 94	5 86	4 42	45	
	55	14 32	10 63	8 04	6 24	55	
	65	17 76	13 57	10 58	8 44	65	
	75	21 13	16 61	13 37	10 97	75	
10 & 20	30	7 42	5 29	3 84	2 88	30	10 & 20
	40	9 55	6 87	5 05	3 82	40	
	50	12 16	8 85	6 66	5 09	50	
	60	15 86	12 03	9 31	7 36	60	
	70	19 18	14 94	11 91	9 67	70	
10 & 25	35	8 12	5 73	4 28	3 41	35	10 & 25
	45	10 39	7 51	5 61	4 26	45	
	55	13 65	10 21	7 79	6 07	55	
	65	17 07	13 14	10 32	8 27	65	
	75	20 44	16 18	13 10	10 79	75	
15 & 20	30	7 04	5 07	3 75	2 84	30	15 & 20
	40	9 13	6 63	4 94	3 75	40	
	50	11 71	8 64	6 52	5 01	50	
	60	15 40	11 75	9 16	7 28	60	
	70	18 70	14 65	11 72	9 54	70	
20 & 20	30	6 70	4 87	3 62	2 76	30	20 & 20
	40	8 73	6 40	4 79	3 66	40	
	50	11 27	8 38	6 35	4 90	50	
	60	14 95	11 48	8 99	7 17	60	
	70	18 25	14 38	11 54	9 43	70	

E.G. The Fine a Tenant should pay for putting in Two New Lives, aged 10 and 15, in a Lease originally granted for Three Lives, two of which have dropped, and the age of the Life in possession being 55, in order to allow him 5 ℔ cent. interest on his money, is 8 04, or 8 years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £804.

If calculated at 6 ℔ cent., the FINE is 6 24, or 6¼ years' purchase of the NET INCOME; and the FINE for each £100 of NET INCOME is £624.

COMPARATIVE TABLES,

SHOWING THE RATE OF MORTALITY OR NUMBER OF PERSONS LIVING AT EVERY AGE FROM BIRTH TO **90**, OUT OF **10,000** BORN, ACCORDING TO THE OBSERVATIONS MADE IN LONDON, NORTHAMPTON, AND CARLISLE; WITH THE DECREMENT OR DEATHS FROM YEAR TO YEAR; THE INTENSITY OF LIFE OR PROPORTION OF SURVIVORS TO DEATHS IN EACH YEAR; AND THE EXPECTATION OF LIFE OR NUMBER OF YEARS A PARTY OF A GIVEN AGE MAY EXPECT TO LIVE.

TABLE

COMPARATIVE

Showing the Rate of Mortality or Number of Persons Living at every age in LONDON, NORTHAMPTON, and CARLISLE; with the DECREMENT of SURVIVORS to DEATHS in each Year; and the EXPECTATION of

LONDON MORTALITY. (SIMPSON, 1728–1737.)						NORTHAMPTON MOR-		
Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE. Years. Parts.	Age.	Age.	Number Living.	DECREMENT or DEATHS in the next Year.
Birth	10,000	3,191	3⅛ to 1	18 93	Birth	Birth	10,000	2,575
1	6,809	1,235	5½ „ 1	26 57	**1**	**1**	7,425	1,173
2	5,574	538	10⅜ „ 1	31 35	2	2	6,252	431
3	5,036	360	14 „ 1	33 64	3	3	5,821	288
4	4,676	243	19¼ „ 1	35 20	4	4	5,533	169
5	4,433	150	29½ „ 1	36 11	**5**	**5**	5,364	158
6	4,283	114	37⅝ „ 1	36 34	6	6	5,206	120
7	4,169	83	50¼ „ 1	36 33	7	7	5,086	95
8	4,086	68	60 „ 1	36 05	8	8	4,991	68
9	4,018	54	74⅜ „ 1	35 66	9	9	4,923	52
10	3,964	52	76¼ „ 1	35 14	**10**	**10**	4,871	44
11	3,912	51	75¼ „ 1	34 60	11	11	4,827	43
12	3,861	51	77¼ „ 1	34 06	12	12	4,784	43
13	3,810	47	81 „ 1	33 49	13	13	4,741	43
14	3,763	45	83⅝ „ 1	32 91	14	14	4,698	43
15	3,718	45	82⅝ „ 1	32 30	**15**	**15**	4,655	43
16	3.673	47	78⅛ „ 1	31 69	16	16	4,612	45
17	3,626	47	77⅛ „ 1	31 10	17	17	4,567	50
18	3,579	48	74½ „ 1	30 50	18	18	4,517	54
19	3,531	48	73½ „ 1	29 91	19	19	4,463	58
20	3,483	48	72½ „ 1	29 31	**20**	**20**	4,405	62
21	3,435	52	66 „ 1	28 72	21	21	4,343	64
22	3,383	53	63⅞ „ 1	28 15	22	22	4,279	64
23	3,330	55	60½ „ 1	27 58	23	23	4,215	65
24	3,275	56	58½ „ 1	27 04	24	24	4,150	64
25	3,219	57	56½ „ 1	26 51	**25**	**25**	4,086	65
26	3,162	56	56½ „ 1	25 97	26	26	4,021	64
27	3,106	57	54½ „ 1	25 43	27	27	3,957	64
28	3,049	63	48⅜ „ 1	24 90	28	28	3,893	65
29	2,986	63	47⅜ „ 1	24 41	29	29	3,828	64
30	2,923	64	45⅔ „ 1	23 93	**30**	**30**	3,764	64

XXX.

TABLE

from Birth to 90, out of 10,000 Born, according to the Observations made or DEATHS from Year to Year; the INTENSITY of LIFE or Proportion LIFE or number of Years a party of a given age may expect to live.

TALITY. (PRICE, 1735–1780.)			CARLISLE MORTALITY. (MYLNE, 1779–1787.)					
INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE.	Age.	Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE.	Age.
	Years. Parts.						Yrs. Parts.	
3⅞ to 1	25 18	Birth	Birth	10,000	1,539	6½ to 1	38 72	Birth
6⅛ „ 1	32 74	**1**	**1**	8,461	682	12⅜ „ 1	44 68	**1**
14½ „ 1	37 79	2	2	7,779	505	15⅜ „ 1	47 55	2
20¼ „ 1	39 55	3	3	7,274	276	26⅜ „ 1	49 82	3
32¾ „ 1	40 58	4	4	6,998	201	34⅞ „ 1	50 76	4
34 „ 1	40 84	**5**	**5**	6,797	121	56⅛ „ 1	51 25	**5**
43⅜ „ 1	41 07	6	6	6,676	82	81⅜ „ 1	51 17	6
53½ „ 1	41 03	7	7	6,594	58	113⅜ „ 1	50 80	7
73⅜ „ 1	40 79	8	8	6,536	43	152 „ 1	50 24	8
94⅜ „ 1	40 36	9	9	6,493	33	196¾ „ 1	49 57	9
110⅜ „ 1	39 78	**10**	**10**	6,460	29	222¾ „ 1	48 82	**10**
112¼ „ 1	39 14	11	11	6,431	31	207½ „ 1	48 04	11
111¼ „ 1	38 49	12	12	6,400	32	200 „ 1	47 27	12
110¼ „ 1	37 83	13	13	6,368	33	193 „ 1	46 51	13
109¼ „ 1	37 17	14	14	6,335	35	181 „ 1	45 75	14
108¼ „ 1	36 51	**15**	**15**	6,300	39	161½ „ 1	45 00	**15**
102½ „ 1	35 85	16	16	6,261	42	149 „ 1	44 27	16
91⅛ „ 1	35 20	17	17	6,219	43	144⅝ „ 1	43 57	17
83⅜ „ 1	34 58	18	18	6,176	43	143⅝ „ 1	42 87	18
77 „ 1	33 99	19	19	6,133	43	142⅝ „ 1	42 17	19
71 „ 1	33 43	**20**	**20**	6,090	43	141⅝ „ 1	41 46	**20**
67⅞ „ 1	32 90	21	21	6,047	42	144 „ 1	40 75	21
66⅞ „ 1	32 39	22	22	6,005	42	143 „ 1	40 04	22
64⅞ „ 1	31 88	23	23	5,963	42	142 „ 1	39 31	23
64⅞ „ 1	31 36	24	24	5,921	42	141 „ 1	38 59	24
62⅞ „ 1	30 85	**25**	**25**	5,879	43	136¾ „ 1	37 86	**25**
62⅞ „ 1	30 33	26	26	5,836	43	135¾ „ 1	37 14	26
61⅞ „ 1	29 82	27	27	5,793	45	128¾ „ 1	36 41	27
59⅞ „ 1	29 30	28	28	5,748	50	115 „ 1	35 69	28
59⅞ „ 1	28 79	29	29	5,698	56	101¾ „ 1	35 00	29
58⅞ „ 1	28 27	**30**	**30**	5,642	57	99 „ 1	34 34	**30**

TABLE

COMPARATIVE

Showing the Rate of Mortality or Number of Persons Living at every age in LONDON, NORTHAMPTON, and CARLISLE; with the DECREMENT SURVIVORS to DEATHS in each Year; and the EXPECTATION of

LONDON MORTALITY. (SIMPSON, 1728–1737.)						NORTHAMPTON MOR-		
Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE. Years. Parts.	Age.	Age.	Number Living.	DECREMENT or DEATHS in the next Year.
31	2,859	65	44 to 1	23 46	31	31	3,700	65
32	2,794	64	43⅔ „ 1	22 98	32	32	3,635	64
33	2,730	65	42 „ 1	22 51	33	33	3,571	65
34	2,665	65	41 „ 1	22 05	34	34	3,506	64
35	2,600	65	40 „ 1	21 59	**35**	**35**	3,442	64
36	2,535	65	39 „ 1	21 13	36	36	3,378	65
37	2,470	66	37⅜ „ 1	20 68	37	37	3,313	64
38	2,404	68	35⅓ „ 1	20 23	38	38	3,249	64
39	2,336	72	32½ „ 1	19 80	39	39	3,185	65
40	2,264	70	32⅓ „ 1	19 42	**40**	**40**	3,120	65
41	2,194	73	30 „ 1	19 02	41	41	3,055	66
42	2,121	73	29 „ 1	18 66	42	42	2,989	67
43	2,048	70	29¼ „ 1	18 31	43	43	2,922	67
44	1,978	70	28¼ „ 1	17 93	44	44	2,855	67
45	1,908	68	28 „ 1	17 57	**45**	**45**	2,788	67
46	1,840	69	26⅔ „ 1	17 21	46	46	2,721	67
47	1,771	69	25⅖ „ 1	16 86	47	47	2,654	67
48	1,702	63	27 „ 1	16 52	48	48	2,587	67
49	1,639	62	26⅜ „ 1	16 13	49	49	2,520	68
50	1,577	62	25⅜ „ 1	15 75	**50**	**50**	2,452	69
51	1,515	62	24⅜ „ 1	15 37	51	51	2,383	71
52	1,453	60	24¼ „ 1	15 01	52	52	2,312	70
53	1,393	57	24½ „ 1	14 63	53	53	2,242	70
54	1,336	56	23⅞ „ 1	14 24	54	54	2,172	71
55	1,280	55	23¼ „ 1	13 84	**55**	**55**	2,101	70
56	1,225	56	21⅞ „ 1	13 44	56	56	2,031	70
57	1,169	51	22⅞ „ 1	13 05	57	57	1,961	71
58	1,118	50	22⅜ „ 1	12 63	58	58	1,890	70
59	1,068	54	19¾ „ 1	12 20	59	59	1,820	71
60	1,014	52	19½ „ 1	11 81	**60**	**60**	1,749	70

TABLE

from Birth to 90, out of 10,000 Born, according to the Observations made or DEATHS from Year to Year; the INTENSITY of LIFE or Proportion of LIFE or number of Years a party of a given age may expect to live.

TALITY. (PRICE, 1735–1780.)

INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE. Years. Parts.	Age.
56⅞ to 1	27 76	31
56¾ „ 1	27 24	32
55 „ 1	26 72	33
54¾ „ 1	26 20	34
53¾ „ 1	25 68	35
52 „ 1	25 16	36
51¾ „ 1	24 64	37
50¾ „ 1	24 12	38
49 „ 1	23 60	39
48 „ 1	23 08	40
46¼ „ 1	22 56	41
44⅝ „ 1	22 04	42
43⅝ „ 1	21 54	43
42⅝ „ 1	21 03	44
41⅝ „ 1	20 52	45
40⅝ „ 1	20 02	46
39⅝ „ 1	19 51	47
38⅝ „ 1	19 00	48
37 „ 1	18 49	49
35½ „ 1	17 99	50
33½ „ 1	17 50	51
33 „ 1	17 02	52
32 „ 1	16 54	53
30⅝ „ 1	16 06	54
30 „ 1	15 58	55
29 „ 1	15 10	56
27⅝ „ 1	14 63	57
27 „ 1	14 15	58
25⅝ „ 1	13 68	59
25 „ 1	13 21	60

CARLISLE MORTALITY. (MYLNE, 1779–1787.)

Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE. Yrs. Parts.	Age.
31	5,585	57	98 to 1	33 68	31
32	5,528	56	98¾ „ 1	33 03	32
33	5,472	55	99½ „ 1	32 36	33
34	5,417	55	98½ „ 1	31 68	34
35	5,362	55	97¼ „ 1	31 00	35
36	5,307	56	94¾ „ 1	30 32	36
37	5,251	57	92⅛ „ 1	29 64	37
38	5,194	58	89½ „ 1	28 96	38
39	5,136	61	84⅛ „ 1	28 28	39
40	5,075	66	76⅞ „ 1	27 61	40
41	5,009	69	72⅝ „ 1	26 97	41
42	4,940	71	69⅝ „ 1	26 34	42
43	4,869	71	68⅝ „ 1	25 71	43
44	4,798	71	67⅛ „ 1	25 09	44
45	4,727	70	67½ „ 1	24 46	45
46	4,657	69	67½ „ 1	23 82	46
47	4,588	67	68⅛ „ 1	23 17	47
48	4,521	63	71¾ „ 1	22 50	48
49	4,458	61	73 „ 1	21 81	49
50	4,397	59	74½ „ 1	21 11	50
51	4,338	62	70 „ 1	20 39	51
52	4,276	65	65¾ „ 1	19 68	52
53	4,211	68	61⅞ „ 1	18 97	53
54	4,143	70	59⅛ „ 1	18 28	54
55	4,073	73	55¾ „ 1	17 58	55
56	4,000	76	52⅝ „ 1	16 89	56
57	3,924	82	47⅞ „ 1	16 21	57
58	3,842	93	41⅓ „ 1	15 55	58
59	3,749	106	35⅜ „ 1	14 92	59
60	3,643	122	29⅞ „ 1	14 34	60

TABLE

COMPARATIVE

Showing the Rate of Mortality or Number of Persons Living at every age in LONDON, NORTHAMPTON, and CARLISLE; with the DECREMENT of SURVIVORS to DEATHS in each Year; and the EXPECTATION of

LONDON MORTALITY. (SIMPSON, 1728–1737.)						NORTHAMPTON MOR-		
Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE. Years. Parts.	Age.	Age.	Number Living.	DECREMENT or DEATHS in the next Year.
61	962	50	19¼ to 1	11 44	61	61	1,679	70
62	912	49	18⅝ „ 1	11 03	62	62	1,609	70
63	863	50	17¼ „ 1	10 64	63	63	1,539	69
64	813	50	16¼ „ 1	10 25	64	64	1,470	69
65	763	48	15⅞ „ 1	9 89	**65**	**65**	1,401	69
66	715	48	14⅞ „ 1	9 52	66	66	1,332	68
67	667	49	13⅝ „ 1	9 18	67	67	1,264	69
68	618	44	14 „ 1	8 86	68	68	1,195	69
69	574	44	13 „ 1	8 50	69	69	1,126	68
70	530	41	12⅞ „ 1	8 16	**70**	**70**	1,058	69
71	489	41	11⅞ „ 1	7 81	71	71	989	69
72	448	40	11¼ „ 1	7 47	72	72	920	68
73	408	35	11⅜ „ 1	7 17	73	73	852	69
74	373	34	11 „ 1	6 79	74	74	783	69
75	339	34	10 „ 1	6 42	**75**	**75**	714	69
76	305	33	9¼ „ 1	6 08	76	76	645	66
77	272	33	8¼ „ 1	5 75	77	77	579	62
78	239	26	9¼ „ 1	5 47	78	78	517	59
79	213	43	5 „ 1	5 08	79	79	458	55
80	170	22	7¾ „ 1	5 24	**80**	**80**	403	55
81	148	21	7 „ 1	4 93	81	81	348	51
82	127	19	6¾ „ 1	4 67	82	82	297	49
83	108	19	5¾ „ 1	4 42	83	83	248	47
84	89	11	8 „ 1	4 23	84	84	201	41
85	78	17	4⅝ „ 1	3 79	**85**	**85**	160	36
86	61	13	4⅔ „ 1	3 68	86	86	124	29
87	48	12	4 „ 1	3 52	87	87	95	24
88	36	7	5⅛ „ 1	3 52	88	88	71	18
89	29	7	4⅛ „ 1	3 33	89	89	53	14
90	22	4	5½ „ 1	3 22	**90**	**90**	39	10

TABLE

from Birth to 90, out of 10,000 Born, according to the Observations made
or DEATHS from Year to Year; the INTENSITY of LIFE or Proportion
LIFE or number of Years a party of a given age may expect to live.

TALITY. (PRICE, 1735-1780.)			CARLISLE MORTALITY. (MYLNE, 1779-1787.)					
INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE.	Age.	Age.	Number Living.	DECREMENT or DEATHS in the next Year.	INTENSITY of LIFE or Proportion of SURVIVORS to DEATHS in each Year.	EXPECTATION of LIFE.	Age.
	Years. Parts.						Yrs. Parts.	
24 to 1	12 75	61	61	3,521	126	28 to 1	13 82	61
23 „ 1	12 28	62	62	3,395	127	26¾ „ 1	13 31	62
22⅛ „ 1	11 81	63	63	3,268	125	26⅛ „ 1	12 81	63
21⅛ „ 1	11 35	64	64	3,143	125	25⅛ „ 1	12 30	64
20⅛ „ 1	10 88	**65**	**65**	3,018	124	24⅓ „ 1	11 79	**65**
19⅝ „ 1	10 42	66	66	2,894	123	23½ „ 1	11 27	66
18⅛ „ 1	9 96	67	67	2,771	123	22½ „ 1	10 75	67
17⅛ „ 1	9 50	68	68	2,648	123	21½ „ 1	10 23	68
16½ „ 1	9 05	69	69	2,525	124	20⅜ „ 1	9 70	69
15⅕ „ 1	8 60	**70**	**70**	2,401	124	19⅜ „ 1	9 18	**70**
14⅛ „ 1	8 17	71	71	2,277	134	17 „ 1	8 65	71
13½ „ 1	7 74	72	72	2,143	146	14⅔ „ 1	8 16	72
12⅓ „ 1	7 33	73	73	1,997	156	12¾ „ 1	7 72	73
11⅛ „ 1	6 92	74	74	1,841	166	11⅛ „ 1	7 33	74
10⅛ „ 1	6 54	**75**	**75**	1,675	160	10½ „ 1	7 01	**75**
9¾ „ 1	6 18	76	76	1,515	156	9¾ „ 1	6 69	76
9⅛ „ 1	5 83	77	77	1,359	146	9⅓ „ 1	6 40	77
8¾ „ 1	5 48	78	78	1,213	132	9⅛ „ 1	6 12	78
8⅛ „ 1	5 11	79	79	1,081	128	8½ „ 1	5 80	79
7⅛ „ 1	4 75	**80**	**80**	953	116	8¼ „ 1	5 51	**80**
6⅞ „ 1	4 41	81	81	837	112	7½ „ 1	5 21	81
6 „ 1	4 09	82	82	725	102	7⅛ „ 1	4 93	82
5¼ „ 1	3 80	83	83	623	94	6⅝ „ 1	4 65	83
4⅞ „ 1	3 58	84	84	529	84	6⅓ „ 1	4 39	84
4½ „ 1	3 37	**85**	**85**	445	78	5¾ „ 1	4 12	**85**
4¼ „ 1	3 19	86	86	367	71	5⅙ „ 1	3 90	86
4 „ 1	3 01	87	87	296	64	4⅝ „ 1	3 71	87
4 „ 1	2 86	88	88	232	51	4½ „ 1	3 59	88
3¾ „ 1	2 66	89	89	181	39	4⅝ „ 1	3 47	89
3⅞ „ 1	2 41	**90**	**90**	142	37	3⅞ „ 1	3 28	**90**

TABLE XXXI.

Showing the Expectation of Life, or the Period a Party of a given Age may expect to Live, according to the following Tables of Mortality, deduced from Observations made in England.*

Completed Age.	Carlisle.	Northampton.	Equitable Experience. 1834.		Amicable Experience. 1841.	Experience, 17 Life Offices. 1843.	Government Annuitants.		Completed Age.
			Table A.	Table B.			Males.	Females.	
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	
0	38 72	25 18					50 16	55 51	**0**
1	44 68	32 74					50 13	55 59	1
5	51 25	40 84					48 93	54 23	5
10	48 82	39 78	48 32	43 73			45 57	51 05	**10**
13	46 51	37 83	46 35	41 71			43 31	48 70	13
15	45 00	36 51	45 03	40 36			41 76	47 19	15
17	43 57	35 20	43 70	39 01			40 29	45 86	17
20	41 46	33 43	41 67	37 05		41 49	38 39	43 99	**20**
23	39 31	31 88	39 55	35 33		39 39	36 87	42 09	23
25	37 86	30 85	38 12	34 25	37 80	37 98	35 90	40 81	25
27	36 41	29 82	36 69	33 16	36 14	36 56	34 86	39 52	27
30	34 34	28 27	34 53	31 53	33 68	34 43	33 17	37 57	**30**
33	32 36	26 72	32 36	29 84	31 28	32 30	31 40	35 61	33
35	31 00	25 68	30 93	28 67	29 72	30 87	30 17	34 31	35
37	29 64	24 64	29 50	27 47	28 19	29 44	28 91	33 04	37
40	27 61	23 08	27 39	25 65	25 94	27 28	27 02	31 12	**40**
43	25 71	21 54	25 29	23 80	23 77	25 12	25 08	29 14	43
45	24 46	20 52	23 87	22 55	22 36	23 69	23 75	27 81	45
47	23 17	19 51	22 47	21 29	20 99	22 27	22 38	26 44	47
49	21 81	18 49	21 06	20 02	19 65	20 87	20 98	25 06	49
50	21 11	17 99	20 36	19 37	18 99	20 18	20 30	24 35	**50**
51	20 39	17 50	19 66	18 73	18 34	19 50	19 62	23 65	51
53	18 97	16 54	18 30	17 49	17 07	18 16	18 34	22 22	53
55	17 58	15 58	16 99	16 28	15 83	16 86	17 15	20 79	55
57	16 21	14 63	15 70	15 15	14 62	15 59	16 02	19 38	57
59	14 92	13 68	14 49	14 05	13 45	14 37	14 93	18 00	59
60	14 34	13 21	13 91	13 53	12 88	13 77	14 39	17 32	**60**
61	13 82	12 75	13 35	13 02	12 32	13 18	13 84	16 64	61
63	12 81	11 81	12 23	12 04	11 25	12 05	12 72	15 30	63
65	11 79	10 88	11 13	11 07	10 26	10 97	11 63	14 00	65
67	10 75	9 96	10 10	10 12	9 35	9 96	10 61	12 76	67
70	9 18	8 60	8 70	8 70	8 11	8 54	9 22	10 99	**70**
73	7 72	7 33	7 40	7 32	7 01	7 26	7 96	9 41	73
75	7 01	6 54	6 61	6 43	6 34	6 48	7 12	8 46	75
77	6 40	5 83	5 86	5 60	5 72	5 76	6 23	7 58	77
80	5 51	4 75	4 75	4 51	4 88	4 78	4 94	6 50	**80**
83	4 65	3 80	3 79	3 65	4 14		3 82	5 57	83
85	4 12	3 37	3 39	3 23	3 70		3 12	4 84	85
87	3 71	3 01	3 03	2 82	3 28		2 53	4 03	87
90	3 28	2 41	2 56	2 19	2 70		1 95	2 83	**90**

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* See Note (No. 2) Expectation of Life.

TABLE XXXII.

Showing the EXPECTATION of LIFE, or the Period a Party of a given Age may expect to live, according to the following TABLES of MORTALITY, deduced from Observations made on the CONTINENT.

Completed AGE.	SWEDEN.			FRANCE.		HOLLAND. State Annuitants.	BRESLAW.	BRANDENBURG.	Completed AGE.
	Males.	Females.	General Population.	General Population.	State Annuitants.				
	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts.	Years. Parts	Years. Parts.	Years. Parts.	Years. Parts.	
0	33 19	35 70	34 42	28 76	34 89	34 47	27 45	30 68	**0**
1	41 96	44 00	42 96	36 35	45 67	41 77	33 43	37 60	1
5	45 62	48 00	46 80	43 40	48 35	44 45	41 20	42 94	5
10	43 95	46 26	45 07	40 80	46 92	42 71	40 40	42 14	**10**
13	42 00	44 26	43 11	38 74	45 08	40 90	38 68	40 05	13
15	40 56	42 77	41 64	37 40	43 66	39 55	37 40	38 64	15
17	39 10	41 30	40 18	36 11	42 25	38 19	36 11	37 22	17
20	36 96	39 15	38 03	34 26	40 29	36 31	34 15	35 07	**20**
23	34 94	37 01	35 96	32 48	38 43	34 41	32 22	33 10	23
25	33 64	35 58	34 59	31 33	37 21	33 28	30 88	31 76	25
27	32 33	34 18	33 23	30 20	36 02	32 36	29 64	30 55	27
30	30 33	32 17	31 23	28 52	34 18	30 93	27 81	28 70	**30**
33	28 40	30 27	29 30	26 84	32 26	29 49	26 05	26 83	33
35	27 09	29 03	28 03	25 72	30 95	28 36	24 92	25 56	35
37	25 77	27 69	26 70	24 59	29 62	27 22	23 83	24 41	37
40	23 75	25 63	24 66	22 89	27 54	25 50	22 19	22 65	**40**
43	21 89	23 78	22 80	21 18	25 42	23 62	20 57	20 86	43
45	20 71	22 57	21 61	20 05	24 02	22 34	19 56	19 65	45
47	19 69	21 28	20 37	18 91	22 61	21 13	18 54	18 43	47
49	18 31	19 93	19 08	17 79	21 21	19 99	17 53	17 18	49
50	17 72	19 26	18 46	17 23	20 51	19 41	17 07	16 55	**50**
51	17 18	18 62	17 87	16 67	19 83	18 87	16 61	15 96	51
53	16 09	17 39	16 70	15 58	18 45	17 82	15 71	14 78	53
55	14 99	16 16	15 54	14 51	17 15	16 73	14 77	13 68	55
57	13 87	14 90	14 36	13 46	15 92	15 66	13 78	12 68	57
59	12 79	13 67	13 20	12 45	14 70	14 62	12 80	11 73	59
60	12 25	13 08	12 63	11 95	14 15	14 17	12 30	11 28	**60**
61	11 72	12 54	12 10	11 47	13 59	13 58	11 81	10 84	61
63	10 74	11 51	11 09	10 53	12 52	12 54	10 83	9 98	63
65	9 78	10 49	10 10	9 63	11 43	11 56	9 86	9 15	65
67	8 84	9 47	9 12	8 77	10 37	10 59	8 89	8 38	67
70	7 60	7 92	7 72	7 58	8 79	9 15	7 45	7 39	**70**
73	6 53	6 63	6 53	6 51	7 29	7 74	6 25	6 52	73
75	5 89	6 03	5 91	5 86	6 44	6 82	5 51	6 17	75
77	5 26	5 43	5 29	5 29	5 71	6 02	4 84	5 76	77
80	4 27	4 46	4 28	4 60	4 73	5 06	4 08	5 06	**80**
83	3 45	3 59	3 57	4 19	3 86	4 09	3 19	4 55	83
85	3 16	3 40	3 23	4 16	3 33	3 38	2 37	4 19	85
87	2 88	3 23	2 92	4 28	2 72	2 84	1 62	3 61	87
90	2 02	2 55	2 05	3 86	1 77	2 47	0 50	2 50	**90**

TABLE XXXIII.

DECIMAL TABLES.

As the Decimal proportions of a Year or of a Pound are constantly used in this book, these Decimal Tables will at once show the value of the nearest period in Months and Weeks; or the nearest amount in Shillings and Pence corresponding to the Decimal whose value is sought.

YEAR DECIMAL TABLE,

Showing the equivalent Decimal to each Week and Month in the Year.

Decimals.	Portion of a Year.		Decimals.	Portion of a Year.		Decimals.	Portion of a Year.	
	Months.	Weeks.		Months.	Weeks.		Months.	Weeks.
·019	0	1	·352	4	1	·686	8	1
·038	0	2	·372	4	2	·705	8	2
·058	0	3	·391	4	3	·724	8	3
·077	0	4	·410	4	4	·743	8	4
·083	1	0	·416	5	0	·750	9	0
·102	1	1	·436	5	1	·769	9	1
·122	1	2	·455	5	2	·788	9	2
·141	1	3	·474	5	3	·808	9	3
·160	1	4	·493	5	4	·827	9	4
·166	2	0	·500	6	0	·833	10	0
·186	2	1	·519	6	1	·852	10	1
·205	2	2	·538	6	2	·872	10	2
·224	2	3	·558	6	3	·891	10	3
·243	2	4	·577	6	4	·910	10	4
·250	3	0	·583	7	0	·916	11	0
·269	3	1	·602	7	1	·936	11	1
·288	3	2	·622	7	2	·955	11	2
·308	3	3	·641	7	3	·974	11	3
·327	3	4	·660	7	4	·993	11	4
·333	4	0	·666	8	0	1·000	12	0

TABLE OF FRACTIONS WITH EQUIVALENT DECIMAL.

Fractions.	Decimals.	Fractions.	Decimals.	Fractions.	Decimals.
$\frac{1}{16}$	·062	$\frac{3}{8}$	·375	$\frac{11}{16}$	·687
$\frac{1}{12}$	·083	$\frac{2}{5}$	·400	$\frac{7}{10}$	·700
$\frac{1}{10}$	·100	$\frac{5}{12}$	·416	$\frac{3}{4}$	·750
$\frac{1}{8}$	·125	$\frac{7}{16}$	·437	$\frac{4}{5}$	·800
$\frac{1}{6}$	·166	$\frac{1}{2}$	·500	$\frac{13}{16}$	·812
$\frac{3}{16}$	·187	$\frac{9}{16}$	·562	$\frac{5}{6}$	·833
$\frac{1}{5}$	·200	$\frac{7}{12}$	·583	$\frac{7}{8}$	·875
$\frac{1}{4}$	·250	$\frac{3}{5}$	·600	$\frac{9}{10}$	·900
$\frac{3}{10}$	·300	$\frac{5}{8}$	·625	$\frac{11}{12}$	·916
$\frac{5}{16}$	·312	$\frac{2}{3}$	·666	$\frac{15}{16}$	·937
$\frac{1}{3}$	·333				

TABLE XXXIV.

POUND DECIMAL TABLE,

Showing the Decimal equivalent to each Penny in the Pound Sterling.

Decimal.	Portion of a Pound.		Decimal.	Portion of a Pound.		Decimal.	Portion of a Pound.		Decimal.	Portion of a Pound.		Decimal.	Portion of a Pound.	
	s.	d.		s.	d.		s.	d.		s.	d.		s.	d.
·004	0	1	·204	4	1	·404	8	1	·604	12	1	·804	16	1
·008	0	2	·208	4	2	·408	8	2	·608	12	2	·808	16	2
·012	0	3	·212	4	3	·412	8	3	·612	12	3	·812	16	3
·017	0	4	·217	4	4	·417	8	4	·617	12	4	·817	16	4
·021	0	5	·221	4	5	·421	8	5	·621	12	5	·821	16	5
·025	0	6	·225	4	6	·425	8	6	·625	12	6	·825	16	6
·029	0	7	·229	4	7	·429	8	7	·629	12	7	·829	16	7
·033	0	8	·233	4	8	·433	8	8	·633	12	8	·833	16	8
·037	0	9	·237	4	9	·437	8	9	·637	12	9	·837	16	9
·042	0	10	·242	4	10	·442	8	10	·642	12	10	·842	16	10
·046	0	11	·246	4	11	·446	8	11	·646	12	11	·846	16	11
·050	1	0	·250	5	0	·450	9	0	·650	13	0	·850	17	0
·054	1	1	·254	5	1	·454	9	1	·654	13	1	·854	17	1
·058	1	2	·258	5	2	·458	9	2	·658	13	2	·858	17	2
·062	1	3	·262	5	3	·462	9	3	·662	13	3	·862	17	3
·067	1	4	·267	5	4	·467	9	4	·667	13	4	·867	17	4
·071	1	5	·271	5	5	·471	9	5	·671	13	5	·871	17	5
·075	1	6	·275	5	6	·475	9	6	·675	13	6	·875	17	6
·079	1	7	·279	5	7	·479	9	7	·679	13	7	·879	17	7
·083	1	8	·283	5	8	·483	9	8	·683	13	8	·883	17	8
·087	1	9	·287	5	9	·487	9	9	·687	13	9	·887	17	9
·092	1	10	·292	5	10	·492	9	10	·692	13	10	·892	17	10
·096	1	11	·296	5	11	·496	9	11	·696	13	11	·896	17	11
·100	2	0	·300	6	0	·500	10	0	·700	14	0	·900	18	0
·104	2	1	·304	6	1	·504	10	1	·704	14	1	·904	18	1
·108	2	2	·308	6	2	·508	10	2	·708	14	2	·908	18	2
·112	2	3	·312	6	3	·512	10	3	·712	14	3	·912	18	3
·117	2	4	·317	6	4	·517	10	4	·717	14	4	·917	18	4
·121	2	5	·321	6	5	·521	10	5	·721	14	5	·921	18	5
·125	2	6	·325	6	6	·525	10	6	·725	14	6	·925	18	6
·129	2	7	·329	6	7	·529	10	7	·729	14	7	·929	18	7
·133	2	8	·333	6	8	·533	10	8	·733	14	8	·933	18	8
·137	2	9	·337	6	9	·537	10	9	·737	14	9	·937	18	9
·142	2	10	·342	6	10	·542	10	10	·742	14	10	·942	18	10
·146	2	11	·346	6	11	·546	10	11	·746	14	11	·946	18	11
·150	3	0	·350	7	0	·550	11	0	·750	15	0	·950	19	0
·154	3	1	·354	7	1	·554	11	1	·754	15	1	·954	19	1
·158	3	2	·358	7	2	·558	11	2	·758	15	2	·958	19	2
·162	3	3	·362	7	3	·562	11	3	·762	15	3	·962	19	3
·167	3	4	·367	7	4	·567	11	4	·767	15	4	·967	19	4
·171	3	5	·371	7	5	·571	11	5	·771	15	5	·971	19	5
·175	3	6	·375	7	6	·575	11	6	·775	15	6	·975	19	6
·179	3	7	·379	7	7	·579	11	7	·779	15	7	·979	19	7
·183	3	8	·383	7	8	·583	11	8	·783	15	8	·983	19	8
·187	3	9	·387	7	9	·587	11	9	·787	15	9	·987	19	9
·192	3	10	·392	7	10	·592	11	10	·792	15	10	·992	19	10
·196	3	11	·396	7	11	·596	11	11	·796	15	11	·996	19	11
·200	4	0	·400	8	0	·600	12	0	·800	16	0	1·000	20	0

N. B. When three places of decimals are used, the Pound is considered as divided into 1000 parts; and when only two places are used, then the Pound is considered as divided into 100 parts.

TABLE XXXV.

DECIMAL COINAGE.

Although the recommendations of the Select Committee of the House of Commons on DECIMAL COINAGE, dated 1st August, 1853, have not as yet been carried out, it is probable that the change will ultimately take place. Assuming, therefore, that the Pound Sterling will be divided into Florins, Cents, and Mils, by the aid of the following Tables any number of Pounds or Yards, &c., at a given price in pence and parts may be readily converted into the true amount in a DECIMAL CURRENCY.

Mils.	Cents.	Florins.	
1			
10=	1		
100=	10=	1	
1000=	100=	10=	1 Pound.

1 Pound = 1000 Mils.
$\frac{1}{10}$ Pound = 1 Florin = 100 „
$\frac{1}{100}$ „ = 1 Cent = 10 „
$\frac{1}{1000}$ „ = 1 Mil.

TABLE of the ten first MULTIPLES of the following DECIMAL Values of a POUND, viz.: One Penny; one Farthing; $\frac{1}{8}$ of a Penny; and $\frac{1}{16}$ of a Penny.

Multiple.	ONE PENNY.	Multiple.	ONE FARTHING.	Multiple.	$\frac{1}{8}$ of a PENNY.	Multiple.	$\frac{1}{16}$ of a PENNY.
1	·004 166	1	·001 041 6	1	·000 520 83	1	·000 260 416
2	·008 333	2	·002 083 3	2	·001 041 66	2	·000 520 833
3	·012 500	3	·003 125 0	3	·001 562 50	3	·000 781 250
4	·016 666	4	·004 166 6	4	·002 083 33	4	·001 041 666
5	·020 833	5	·005 208 3	5	·002 604 16	5	·001 302 083
6	·025 000	6	·006 250 0	6	·003 125 00	6	·001 562 500
7	·029 166	7	·007 291 6	7	·003 645 83	7	·001 822 916
8	·033 333	8	·008 333 3	8	·004 166 66	8	002 083 333
9	·037 500	9	·009 375 0	9	·004 687 50	9	·002 343 750
10	·041 666	10	·010 416 6	10	·005 208 33	10	·002 604 166

N.B.—The last figures in the *above Decimal Values* are *recurrent*.

E.G. 1. What is the amount in a Decimal Currency of 957 yards Cotton at $6\frac{3}{16}d.$ per yard?

$6\frac{3}{16}d. = \frac{99}{16}$. 957 × 99 = 94743 Sixteenths.
By Table 3 Sixteenths = ·000 781
40 „ = ·010 416
700 „ = ·182 291
4000 „ = 1·041 666
90000 „ = 23·437 500
94743 £ 24·672 654

or 24 Pounds 6 Florins 7 Cents 2 Mils $\frac{654}{1000}$.

E.G. 2. What is the amount in a Decimal Currency of 957 pounds of Cotton at $4\frac{3}{8}d.$ per lb.?

$4\frac{3}{8}d. = \frac{35}{8}$. 957 × 35 = 33495 Eighths.
By Table 5 Eighths = ·002 60416
90 „ = ·046 87500
400 „ = ·208 33333
3000 „ = 1·562 50000
30000 „ = 15·625 00000
33495 £ 17·445 31250

or 17 Pounds 4 Florins 4 Cents 5 Mils $\frac{312}{1000}$.

E.G. 3. What is the amount in a Decimal Currency of 957 pounds of Sugar at $5\frac{1}{4}$ per lb.?

$5\frac{1}{4} = \frac{21}{4}$. 957 × 21 = 20097 Farthings.
By Table 7 Farthings = ·007 2916
90 „ = ·093 7500
20000 „ = 20·833 3333
20097 £ 20·934 3750

or 20 Pounds 9 Florins 3 Cents 4 Mils $\frac{375}{1000}$.

MISCELLANEOUS TABLES.

TABLE 1.

INTEREST TABLE AT 3 PER CENT.

AMOUNT.			1 DAY.		1 WEEK.		1 MONTH.			3 MONTHS.			6 MONTHS.			1 YEAR.		
£.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*
–	5	0	–	–	–	–	–	–	0	–	–	0¼	–	–	0¾	–	–	1¾
–	10	0	–	–	–	–	–	–	0¼	–	–	0¾	–	–	1¾	–	–	3½
–	15	0	–	–	–	–	–	–	0¼	–	–	1¼	–	–	2½	–	–	5¼
1	–	–	–	–	–	–	–	–	0½	–	–	1¾	–	–	3½	–	–	7
2	–	–	–	–	–	0¼	–	–	1	–	–	3½	–	–	7	–	1	2¼
3	–	–	–	–	–	0¼	–	–	1¾	–	–	5¼	–	–	10¾	–	1	9½
4	–	–	–	–	–	0½	–	–	2¼	–	–	7	–	1	2¼	–	2	4¾
5	–	–	–	–	–	0½	–	–	3	–	–	9	–	1	6	–	3	0
6	–	–	–	–	–	0¾	–	–	3½	–	–	10¾	–	1	9½	–	3	7
7	–	–	–	–	–	0¾	–	–	4	–	1	0½	–	2	1	–	4	2¼
8	–	–	–	–	–	1	–	–	4¾	–	1	2¼	–	2	4¾	–	4	9½
9	–	–	–	–	–	1	–	–	5¼	–	1	4	–	2	8¼	–	5	4¾
10	–	–	–	–	–	1¼	–	–	6	–	1	6	–	3	0	–	6	0
11	–	–	–	–	–	1½	–	–	6½	–	1	7¾	–	3	3½	–	6	7
12	–	–	–	–	–	1½	–	–	7	–	1	9½	–	3	7	–	7	2¼
13	–	–	–	0¼	–	1¾	–	–	7¾	–	1	11¼	–	3	10¾	–	7	9½
14	–	–	–	0¼	–	1¾	–	–	8¼	–	2	1	–	4	2¼	–	8	4¾
15	–	–	–	0¼	–	2	–	–	9	–	2	3	–	4	6	–	9	0
16	–	–	–	0¼	–	2	–	–	9½	–	2	4¾	–	4	9½	–	9	7
17	–	–	–	0¼	–	2¼	–	–	10	–	2	6½	–	5	1	–	10	2¼
18	–	–	–	0¼	–	2¼	–	–	10¾	–	2	8¼	–	5	4¾	–	10	9½
19	–	–	–	0¼	–	2½	–	–	11¼	–	2	10	–	5	8¼	–	11	4¾
20	–	–	–	0¼	–	2¾	–	1	0	–	3	0	–	6	0	–	12	0
25	–	–	–	0¼	–	3¼	–	1	3	–	3	9	–	7	6	–	15	0
30	–	–	–	0½	–	4	–	1	6	–	4	6	–	9	0	–	18	0
35	–	–	–	0½	–	4¾	–	1	9	–	5	3	–	10	6	1	1	0
40	–	–	–	0¾	–	5½	–	2	0	–	6	0	–	12	0	1	4	0
45	–	–	–	0¾	–	6	–	2	3	–	6	9	–	13	6	1	7	0
50	–	–	–	0¾	–	6¾	–	2	6	–	7	6	–	15	0	1	10	0
55	–	–	–	1	–	7½	–	2	9	–	8	3	–	16	6	1	13	0
60	–	–	–	1	–	8¼	–	3	0	–	9	0	–	18	0	1	16	0
65	–	–	–	1¼	–	8¾	–	3	3	–	9	9	–	19	6	1	19	0
70	–	–	–	1¼	–	9½	–	3	6	–	10	6	1	1	0	2	2	0
75	–	–	–	1¼	–	10¼	–	3	9	–	11	3	1	2	6	2	5	0
80	–	–	–	1½	–	11	–	4	0	–	12	0	1	4	0	2	8	0
85	–	–	–	1½	–	11½	–	4	3	–	12	9	1	5	6	2	11	0
90	–	–	–	1¾	1	0¼	–	4	6	–	13	6	1	7	0	2	14	0
95	–	–	–	1¾	1	1	–	4	9	–	14	3	1	8	6	2	17	0
100	–	–	–	1¾	1	1¾	–	5	0	–	15	0	1	10	0	3	0	0
200	–	–	–	3¾	2	3½	–	10	0	1	10	0	3	0	0	6	0	0
300	–	–	–	5¾	3	5¼	–	15	0	2	5	0	4	10	0	9	0	0
400	–	–	–	7¾	4	7	1	0	0	3	0	0	6	0	0	12	0	0
500	–	–	–	9¾	5	9	1	5	0	3	15	0	7	10	0	15	0	0
600	–	–	–	11¾	6	10¾	1	10	0	4	10	0	9	0	0	18	0	0
700	–	–	1	1¾	8	0½	1	15	0	5	5	0	10	10	0	21	0	0
800	–	–	1	3¾	9	2¼	2	0	0	6	0	0	12	0	0	24	0	0
900	–	–	1	5¾	10	4¼	2	5	0	6	15	0	13	10	0	27	0	0
1000	–	–	1	7½	11	6	2	10	0	7	10	0	15	0	0	30	0	0

TABLE II.

INTEREST TABLE AT 4 PER CENT.

AMOUNT.			1 DAY.		1 WEEK.		1 MONTH.			3 MONTHS.			6 MONTHS.			1 YEAR.		
£.	s.	d.	s.	d.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	5	0	–	–	–	–	–	–	–	–	–	½	–	–	1	–	–	2¼
–	10	0	–	–	–	–	–	–	¼	–	–	1	–	–	2¼	–	–	4¾
–	15	0	–	–	–	–	–	–	½	–	–	1¾	–	–	3½	–	–	7
1	–	–	–	–	–	–	–	–	¾	–	–	2¼	–	–	4¾	–	–	9½
2	–	–	–	–	–	¼	–	–	1½	–	–	4¾	–	–	9½	–	1	7
3	–	–	–	–	–	½	–	–	2¼	–	–	7	–	1	2¼	–	2	4¾
4	–	–	–	–	–	½	–	–	3	–	–	9½	–	1	7	–	3	2¼
5	–	–	–	–	–	¾	–	–	4	–	1	0	–	2	0	–	4	0
6	–	–	–	–	–	1	–	–	4¾	–	1	2¼	–	2	4¾	–	4	9½
7	–	–	–	–	–	1¼	–	–	5½	–	1	4¾	–	2	9½	–	5	7
8	–	–	–	–	–	1¼	–	–	6¼	–	1	7	–	3	2¼	–	6	4¾
9	–	–	–	–	–	1½	–	–	7	–	1	9½	–	3	7	–	7	2¼
10	–	–	–	¼	–	1¾	–	–	8	–	2	0	–	4	0	–	8	0
11	–	–	–	¼	–	2	–	–	8¾	–	2	2¼	–	4	4¾	–	8	9½
12	–	–	–	¼	–	2	–	–	9½	–	2	4¾	–	4	9½	–	9	7
13	–	–	–	¼	–	2¼	–	–	10¼	–	2	7	–	5	2¼	–	10	4¾
14	–	–	–	¼	–	2½	–	–	11	–	2	9½	–	5	7	–	11	2¼
15	–	–	–	¼	–	2¾	–	1	0	–	3	0	–	6	0	–	12	0
16	–	–	–	¼	–	2¾	–	1	0¾	–	3	2¼	–	6	4¾	–	12	9½
17	–	–	–	¼	–	3	–	1	1½	–	3	4¾	–	6	9½	–	13	7
18	–	–	–	¼	–	3¼	–	1	2¼	–	3	7	–	7	2¼	–	14	4¾
19	–	–	–	¼	–	3¼	–	1	3	–	3	9½	–	7	7	–	15	2¼
20	–	–	–	½	–	3½	–	1	4	–	4	0	–	8	0	–	16	0
25	–	–	–	½	–	4½	–	1	8	–	5	0	–	10	0	1	0	0
30	–	–	–	¾	–	5½	–	2	0	–	6	0	–	12	0	1	4	0
35	–	–	–	¾	–	6¼	–	2	4	–	7	0	–	14	0	1	8	0
40	–	–	–	1	–	7¼	–	2	8	–	8	0	–	16	0	1	12	0
45	–	–	–	1	–	8¼	–	3	0	–	9	0	–	18	0	1	16	0
50	–	–	–	1¼	–	9	–	3	4	–	10	0	1	0	0	2	0	0
55	–	–	–	1¼	–	10	–	3	8	–	11	0	1	2	0	2	4	0
60	–	–	–	1½	–	11	–	4	0	–	12	0	1	4	0	2	8	0
65	–	–	–	1½	–	11¾	–	4	4	–	13	0	1	6	0	2	12	0
70	–	–	–	1¾	1	0¾	–	4	8	–	14	0	1	8	0	2	16	0
75	–	–	–	1¾	1	1¾	–	5	0	–	15	0	1	10	0	3	0	0
80	–	–	–	2	1	2½	–	5	4	–	16	0	1	12	0	3	4	0
85	–	–	–	2	1	3½	–	5	8	–	17	0	1	14	0	3	8	0
90	–	–	–	2¼	1	4½	–	6	0	–	18	0	1	16	0	3	12	0
95	–	–	–	2¼	1	5¼	–	6	4	–	19	0	1	18	0	3	16	0
100	–	–	–	2½	1	6¼	–	6	8	1	0	0	2	0	0	4	0	0
200	–	–	–	5¼	3	0¾	–	13	4	2	0	0	4	0	0	8	0	0
300	–	–	–	7¾	4	7	1	0	0	3	0	0	6	0	0	12	0	0
400	–	–	–	10½	6	1½	1	6	8	4	0	0	8	0	0	16	0	0
500	–	–	1	1	7	8	1	13	4	5	0	0	10	0	0	20	0	0
600	–	–	1	3¾	9	2¼	2	0	0	6	0	0	12	0	0	24	0	0
700	–	–	1	6¼	10	8¾	2	6	8	7	0	0	14	0	0	28	0	0
800	–	–	1	9	12	3¼	2	13	4	8	0	0	16	0	0	32	0	0
900	–	–	1	11½	13	9½	3	0	0	9	0	0	18	0	0	36	0	0
1000	–	–	2	2¼	15	4	3	6	8	10	0	0	20	0	0	40	0	0

TABLE III.

INTEREST TABLE AT 5 PER CENT.

Amount.			1 Day.		1 Week.		1 Month.			3 Months.			6 Months.			1 Year.		
£.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*	*£.*	*s.*	*d.*
–	5	0	–	–	–	–	–	–	¼	–	–	¾	–	–	1½	–	–	3
–	10	0	–	–	–	–	–	–	½	–	–	1½	–	–	3	–	–	6
–	15	0	–	–	–	–	–	–	¾	–	–	2¼	–	–	4½	–	–	9
1	–	–	–	–	–	–	–	–	1	–	–	3	–	–	6	–	1	0
2	–	–	–	–	–	¼	–	–	2	–	–	6	–	1	0	–	2	0
3	–	–	–	–	–	½	–	–	3	–	–	9	–	1	6	–	3	0
4	–	–	–	–	–	¾	–	–	4	–	1	0	–	2	0	–	4	0
5	–	–	–	–	–	1	–	–	5	–	1	3	–	2	6	–	5	0
6	–	–	–	–	–	1¼	–	–	6	–	1	6	–	3	0	–	6	0
7	–	–	–	–	–	1½	–	–	7	–	1	9	–	3	6	–	7	0
8	–	–	–	¼	–	1¾	–	–	8	–	2	0	–	4	0	–	8	0
9	–	–	–	¼	–	2	–	–	9	–	2	3	–	4	6	–	9	0
10	–	–	–	¼	–	2¼	–	–	10	–	2	6	–	5	0	–	10	0
11	–	–	–	¼	–	2½	–	–	11	–	2	9	–	5	6	–	11	0
12	–	–	–	¼	–	2¾	–	1	0	–	3	0	–	6	0	–	12	0
13	–	–	–	¼	–	2¾	–	1	1	–	3	3	–	6	6	–	13	0
14	–	–	–	¼	–	3	–	1	2	–	3	6	–	7	0	–	14	0
15	–	–	–	¼	–	3¼	–	1	3	–	3	9	–	7	6	–	15	0
16	–	–	–	½	–	3½	–	1	4	–	4	0	–	8	0	–	16	0
17	–	–	–	½	–	3¾	–	1	5	–	4	3	–	8	6	–	17	0
18	–	–	–	½	–	4	–	1	6	–	4	6	–	9	0	–	18	0
19	–	–	–	½	–	4¼	–	1	7	–	4	9	–	9	6	–	19	0
20	–	–	–	½	–	4½	–	1	8	–	5	0	–	10	0	1	0	0
25	–	–	–	¾	–	5¾	–	2	1	–	6	3	–	12	6	1	5	0
30	–	–	–	¾	–	6¾	–	2	6	–	7	6	–	15	0	1	10	0
35	–	–	–	1	–	8	–	2	11	–	8	9	–	17	6	1	15	0
40	–	–	–	1¼	–	9	–	3	4	–	10	0	1	0	0	2	0	0
45	–	–	–	1¼	–	10¼	–	3	9	–	11	3	1	2	6	2	5	0
50	–	–	–	1½	–	11½	–	4	2	–	12	6	1	5	0	2	10	0
55	–	–	–	1¾	1	0½	–	4	7	–	13	9	1	7	6	2	15	0
60	–	–	–	1¾	1	1¾	–	5	0	–	15	0	1	10	0	3	0	0
65	–	–	–	2	1	2¾	–	5	5	–	16	3	1	12	6	3	5	0
70	–	–	–	2¼	1	4	–	5	10	–	17	6	1	15	0	3	10	0
75	–	–	–	2¼	1	5¼	–	6	3	–	18	9	1	17	6	3	15	0
80	–	–	–	2½	1	6¼	–	6	8	1	0	0	2	0	0	4	0	0
85	–	–	–	2¾	1	7½	–	7	1	1	1	3	2	2	6	4	5	0
90	–	–	–	2¾	1	8½	–	7	6	1	2	6	2	5	0	4	10	0
95	–	–	–	3	1	9¾	–	7	11	1	3	9	2	7	6	4	15	0
100	–	–	–	3¼	1	11	–	8	4	1	5	0	2	10	0	5	0	0
200	–	–	–	6½	3	10	–	16	8	2	10	0	5	0	0	10	0	0
300	–	–	–	9¾	5	9	1	5	0	3	15	0	7	10	0	15	0	0
400	–	–	1	1	7	8	1	13	4	5	0	0	10	0	0	20	0	0
500	–	–	1	4¼	9	7	2	1	8	6	5	0	12	10	0	25	0	0
600	–	–	1	7½	11	6	2	10	0	7	10	0	15	0	0	30	0	0
700	–	–	1	11	13	5	2	18	4	8	15	0	17	10	0	35	0	0
800	–	–	2	2¼	15	4	3	6	8	10	0	0	20	0	0	40	0	0
900	–	–	2	5½	17	3	3	15	0	11	5	0	22	10	0	45	0	0
1000	–	–	2	8¾	19	2	4	3	4	12	10	0	25	0	0	50	0	0

TABLE IV.

SAVINGS' BANKS INTEREST TABLE,

Showing the AMOUNT of INTEREST at £2. 18*s.* 4*d.* ℔ Cent., or 7*d.* in the POUND, on SUMS deposited from £1 to £200.

AMOUNT.	1 MONTH'S INTEREST.	2 MONTHS' INTEREST.	3 MONTHS' INTEREST.	6 MONTHS' INTEREST.	9 MONTHS' INTEREST.	12 MONTHS' INTEREST.
£.	*s.* *d.*	*s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*
1	- 0½	- 1	- - 1¾	- - 3½	- - 5¼	- - 7
2	- 1	- 2¼	- - 3½	- - 7	- - 10½	- 1 2
3	- 1¾	- 3½	- - 5¼	- - 10½	- 1 3¾	- 1 9
4	- 2¼	- 4½	- - 7	- 1 2	- 1 9	- 2 4
5	- 2¾	- 5¾	- - 8¾	- 1 5½	- 2 2¼	- 2 11
6	- 3½	- 7	- - 10½	- 1 9	- 2 7½	- 3 6
7	- 4	- 8	- 1 0¼	- 2 0½	- 3 0¾	- 4 1
8	- 4½	- 9¼	- 1 2	- 2 4	- 3 6	- 4 8
9	- 5¼	- 10½	- 1 3¾	- 2 7½	- 3 11¼	- 5 3
10	- 5¾	- 11½	- 1 5½	- 2 11	- 4 4½	- 5 10
11	- 6¼	1 0¾	- 1 7¼	- 3 2½	- 4 9¾	- 6 5
12	- 7	1 2	- 1 9	- 3 6	- 5 3	- 7 0
13	- 7½	1 3	- 1 10¾	- 3 9½	- 5 8¼	- 7 7
14	- 8	1 4¼	- 2 0½	- 4 1	- 6 1½	- 8 2
15	- 8¾	1 5½	- 2 2¼	- 4 4½	- 6 6¾	- 8 9
16	- 9¼	1 6½	- 2 4	- 4 8	- 7 0	- 9 4
17	- 9¾	1 7¾	- 2 5¾	- 4 11½	- 7 5¼	- 9 11
18	- 10½	1 9	- 2 7½	- 5 3	- 7 10½	- 10 6
19	- 11	1 10	- 2 9¼	- 5 6½	- 8 3¾	- 11 1
20	- 11½	1 11¼	- 2 11	- 5 10	- 8 9	- 11 8
21	1 0¼	2 0½	- 3 0¾	- 6 1½	- 9 2¼	- 12 3
22	1 0¾	2 1½	- 3 2½	- 6 5	- 9 7½	- 12 10
23	1 1¼	2 2¾	- 3 4¼	- 6 8½	- 10 0¾	- 13 5
24	1 2	2 4	- 3 6	- 7 0	- 10 6	- 14 0
25	1 2½	2 5	- 3 7¾	- 7 3½	- 10 11¼	- 14 7
26	1 3	2 6¼	- 3 9½	- 7 7	- 11 4½	- 15 2
27	1 3¾	2 7½	- 3 11¼	- 7 10½	- 11 9¾	- 15 9
28	1 4¼	2 8½	- 4 1	- 8 2	- 12 3	- 16 4
29	1 4¾	2 9¾	- 4 2¾	- 8 5½	- 12 8¼	- 16 11
30	1 5½	2 11	- 4 4½	- 8 9	- 13 1½	- 17 6
40	1 11¼	3 10½	- 5 10	- 11 8	- 17 6	1 3 4
50	2 5	4 10½	- 7 3½	- 14 7	1 1 10½	1 9 2
60	2 11	5 10	- 8 9	- 17 6	1 6 3	1 15 0
70	3 4¾	6 9½	- 10 2½	1 0 5	1 10 7½	2 0 10
80	3 10½	7 9¼	- 11 8	1 3 4	1 15 0	2 6 8
90	4 4½	8 9	- 13 1½	1 6 3	1 19 4½	2 12 6
100	4 10¼	9 8½	- 14 7	1 9 2	2 3 9	2 18 4
200	9 8½	19 5¼	1 9 2	2 18 4	4 7 6	5 16 8

TABLE V.

GENERAL INCOME and PROPERTY TAX TABLE at various rates in the POUND.

INCOME.	DUTY at 1¾d in the £.			DUTY at 2¼d. in the £.			DUTY at 5d. in the £.			DUTY at 6d. in the £.			DUTY at 7d. in the £.			DUTY at 11½d. in the £.			DUTY at 1s. 4d. in the £.		
£.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
1	0	0	1¾	0	0	2¼	0	0	5	0	0	6	0	0	7	0	0	11½	0	1	4
2	0	0	3½	0	0	4½	0	0	10	0	1	0	0	1	2	0	1	11	0	2	8
3	0	0	5¼	0	0	6¾	0	1	3	0	1	6	0	1	9	0	2	10½	0	4	0
4	0	0	7	0	0	9	0	1	8	0	2	0	0	2	4	0	3	10	0	5	4
5	0	0	8¾	0	0	11¼	0	2	1	0	2	6	0	2	11	0	4	9½	0	6	8
6	0	0	10½	0	1	1½	0	2	6	0	3	0	0	3	6	0	5	9	0	8	0
7	0	1	0¼	0	1	3¾	0	2	11	0	3	6	0	4	1	0	6	8½	0	9	4
8	0	1	2	0	1	6	0	3	4	0	4	0	0	4	8	0	7	8	0	10	8
9	0	1	3¾	0	1	8¼	0	3	9	0	4	6	0	5	3	0	8	7½	0	12	0
10	0	1	5½	0	1	10½	0	4	2	0	5	0	0	5	10	0	9	7	0	13	4
20	0	2	11	0	3	9	0	8	4	0	10	0	0	11	8	0	19	2	1	6	8
30	0	4	4½	0	5	7½	0	12	6	0	15	0	0	17	6	1	8	9	2	0	0
40	0	5	10	0	7	6	0	16	8	1	0	0	1	3	4	1	18	4	2	13	4
50	0	7	3½	0	9	4½	1	0	10	1	5	0	1	9	2	2	7	11	3	6	8
100	0	14	7	0	18	9	2	1	8	2	10	0	2	18	4	4	15	10	6	13	4
150	1	1	10½	1	8	1½	3	2	6	3	15	0	4	7	6	7	3	9	10	0	0
200	1	9	2	1	17	6	4	3	4	5	0	0	5	16	8	9	11	8	13	6	8
250	1	16	5½	2	6	10½	5	4	2	6	5	0	7	5	10	11	19	7	16	13	4
300	2	3	9	2	16	3	6	5	0	7	10	0	8	15	0	14	7	6	20	0	0
400	2	18	4	3	15	0	8	6	8	10	0	0	11	13	4	19	3	4	26	13	4
500	3	12	11	4	13	9	10	8	4	12	10	0	14	11	8	23	19	2	33	6	8
1000	7	5	10	9	7	6	20	16	8	25	0	0	29	3	4	47	18	4	66	13	4

TABLE VI.

TABLE for the CALCULATION of WAGES or other PAYMENTS.

Pounds per Annum.	WAGES IN SOVEREIGNS.											Guineas per Annum.	WAGES IN GUINEAS.										
	ꝑ Day.		ꝑ Week.			ꝑ Month.			ꝑ Quarter.				ꝑ Day.		ꝑ Week.			ꝑ Month.			ꝑ Quarter.		
£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.		s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
1	0	½	0	0	4½	0	1	8	0	5	0	1	0	½	0	0	4¾	0	1	9	0	5	3
2	0	1¼	0	0	9	0	3	4	0	10	0	2	0	1¼	0	0	9½	0	3	6	0	10	6
3	0	1¾	0	1	1¾	0	5	0	0	15	0	3	0	2	0	1	2½	0	5	3	0	15	9
4	0	2½	0	1	6¼	0	6	8	1	0	0	4	0	2¾	0	1	7¼	0	7	0	1	1	0
5	0	3¼	0	1	11	0	8	4	1	5	0	5	0	3¼	0	2	0	0	8	9	1	6	3
6	0	3¾	0	2	3½	0	10	0	1	10	0	6	0	4	0	2	5	0	10	6	1	11	6
7	0	4½	0	2	8¼	0	11	8	1	15	0	7	0	4¾	0	2	9¾	0	12	3	1	16	9
8	0	5¼	0	3	0¼	0	13	4	2	0	0	8	0	5½	0	3	2¾	0	14	0	2	2	0
9	0	5¾	0	3	5½	0	15	0	2	5	0	9	0	6	0	3	7½	0	15	9	2	7	3
10	0	6½	0	3	10	0	16	8	2	10	0	10	0	6¾	0	4	0¼	0	17	6	2	12	6
11	0	7	0	4	2¾	0	18	4	2	15	0	11	0	7½	0	4	5¼	0	19	3	2	17	9
12	0	7¾	0	4	7¼	1	0	0	3	0	0	12	0	8¼	0	4	10	1	1	0	3	3	0
13	0	8½	0	5	0	1	1	8	3	5	0	13	0	8¾	0	5	3	1	2	9	3	8	3
14	0	9	0	5	4½	1	3	4	3	10	0	14	0	9½	0	5	7¾	1	4	6	3	13	6
15	0	9¾	0	5	9	1	5	0	3	15	0	15	0	10¼	0	6	0½	1	6	3	3	18	9
16	0	10½	0	6	1¾	1	6	8	4	0	0	16	0	11	0	6	5½	1	8	0	4	4	0
17	0	11	0	6	6¼	1	8	4	4	5	0	17	0	11½	0	6	10¼	1	9	9	4	9	3
18	0	11¾	0	6	11	1	10	0	4	10	0	18	1	0¼	0	7	3	1	11	6	4	14	6
19	1	0¼	0	7	3½	1	11	8	4	15	0	19	1	1	0	7	8	1	13	3	4	19	9
20	1	1	0	7	8¼	1	13	4	5	0	0	20	1	1¾	0	8	0¾	1	15	0	5	5	0
25	1	4¼	0	9	7¼	2	1	8	6	5	0	25	1	5¼	0	10	1	2	3	9	6	11	3
30	1	7½	0	11	6¼	2	10	0	7	10	0	30	1	8½	0	12	1¼	2	12	6	7	17	6
50	2	8¾	0	19	2¾	4	3	4	12	10	0	50	2	10½	1	0	2¼	4	7	6	13	2	6
100	5	5¼	1	18	5½	8	6	8	25	0	0	100	5	9	2	0	4½	8	15	0	26	5	0

☞ Fractional parts not amounting to One Farthing are omitted.

TABLE VII.

EQUATION TABLE,

Showing the relative PRICES of different FUNDS, according to the ANNUAL DIVIDEND paid thereon, so as to produce the same RATE of INTEREST, contrasted with the Price of LAND.

Price of LAND in Years' Pur-chase.	PRICE of STOCK yielding a Yearly DIVIDEND of									Annual Interest afforded.		
	3 ꝑ Ct.	3¼ ꝑ Cent.	3½ ꝑ Cent.	4 ꝑ Cent.	5 ꝑ Cent.	6 ꝑ Cent.	7 ꝑ Cent.	8 ꝑ Cent.	10½ ꝑ Cent.	£.	s.	d.
20	60	65	70	80	100	120	140	160	210	5	0	0
20⅓	61	66⅛	71	81⅓	101⅔	122	142	162⅔	213½	4	18	9
20⅔	62	67¼	72⅓	82⅔	103⅓	124	144⅔	165⅓	217	4	16	9
21	63	68¼	73½	84	105	126	147	168	220½	4	15	3
21⅓	64	69⅜	74⅔	85⅓	106⅔	128	149⅓	170⅔	224	4	13	9
21⅔	65	70½	76	86⅔	108⅓	130	152	173⅓	227½	4	12	3
22	66	71½	77	88	110	132	154	176	231	4	10	11
22⅓	67	72⅝	78	89⅓	111⅔	134	156	178⅔	234½	4	9	7
22⅔	68	73¾	79⅓	90⅔	113⅓	136	158⅔	181⅓	238	4	8	3
23	69	74¾	80½	92	115	138	161	184	241½	4	7	0
23⅓	70	75⅞	81⅔	93⅓	116⅔	140	163⅓	186⅔	245	4	5	9
23⅔	71	77	83	94⅔	118⅓	142	166	189⅓	248½	4	4	6
24	72	78	84	96	120	144	168	192	252	4	3	4
24⅓	73	79⅛	85	97⅓	121⅔	146	170	194⅔	255½	4	2	2
24⅔	74	80¼	86⅓	98⅔	123⅓	148	172⅔	197⅓	259	4	1	1
25	75	81¼	87½	100	125	150	175	200	262½	4	0	0
25⅓	76	82⅜	88⅔	101⅓	126⅔	152	177⅓	202⅔	266	3	18	11
25⅔	77	83½	90	102⅔	128⅓	154	180	205⅓	269½	3	17	11
26	78	84½	91	104	130	156	182	208	273	3	16	11
26⅓	79	85⅝	92	105⅓	131⅔	158	184	210⅔	276½	3	15	11
26⅔	80	86¾	93⅓	106⅔	133⅓	160	186⅔	213⅓	280	3	15	0
27	81	87¾	94½	108	135	162	189	216	283½	3	14	1
27⅓	82	88⅞	95⅔	109⅓	136⅔	164	191⅓	218⅔	287	3	13	2
27⅔	83	90	97	110⅔	138⅓	166	194	221⅓	290½	3	12	4
28	84	91	98	112	140	168	196	224	294	3	11	5
28⅓	85	92⅛	99	113⅓	141⅔	170	198	226⅔	297½	3	10	7
28⅔	86	93¼	100⅓	114⅔	143⅓	172	200⅔	229⅓	301	3	9	9
29	87	94¼	101½	116	145	174	203	232	304½	3	9	0
29⅓	88	95⅜	102⅔	117⅓	146⅔	176	205⅓	234⅔	308	3	8	2
29⅔	89	96½	104	118⅔	148⅓	178	208	237⅓	311½	3	7	5
30	90	97½	105	120	150	180	210	240	315	3	6	8
30⅓	91	98⅝	106	121⅓	151⅔	182	212	242⅔	318½	3	5	11
30⅔	92	99¾	107⅓	122⅔	153⅓	184	214⅔	245⅓	322	3	5	3
31	93	100¾	108½	124	155	186	217	248	325½	3	4	6
31⅓	94	101⅞	109⅔	125⅓	156⅔	188	219⅓	250⅔	329	3	3	10
31⅔	95	103	111	126⅔	158⅓	190	222	253⅓	332½	3	3	2
32	96	104	112	128	160	192	224	256	336	3	2	6
32⅓	97	105⅛	113	129⅓	161⅔	194	226	258⅔	339½	3	1	10
32⅔	98	106¼	114⅓	130⅔	163⅓	196	228⅔	261⅓	343	3	1	3
33	99	107¼	115½	132	165	198	231	264	346½	3	0	7
33⅓	100	108⅜	116⅔	133⅓	166⅔	200	233⅓	266⅔	350	3	0	0
33⅔	101	109½	118	134⅔	168⅓	202	236	269⅓	353½	2	19	4

☞ The above relative prices will be affected to a certain extent according to the periods when the Dividends become due.

TABLE VIII.

Average Price of 3 ⅌ Cent. Consolidated Annuities, with Average Rate of Interest. 1731 to 1860.

Year.	Price of Consols.	Average Rate of Interest per Cent.			Peace or War.	Chief Administrations.	Events, &c.	National Debt.
	£.	£.	s.	d.			N.B. At Accession Geo. II. in 1727, Total Funded Debt	Mill. 52
1731	96	3	2	6	Peace	Sir Robert Walpole from 1721 to February 1742.	16 *March.* Treaty of Alliance of Vienna. Austria, England & Holland, for Guarantee of Pragmatic Sanction, &c. 22 *July.* Spain accedes.	
1732	98	3	1	2	”		Dividend on Bank Stock 5½ per cent.	
1733	100	3	0	0	”			
1734	92	3	5	2	”		22 *May.* Kouli-Khan defeats the Turks in Persia, who lost 60,000 men.	
1735	95	3	3	1	”			
1736	102	2	18	9	”		7 *Sept.* Capt. Porteous hanged by the mob in Edinburgh.	
1737	106	2	16	7	”		*June.* Highest price of Consols 107.	
1738	104	2	17	8	”		18 *Nov.* Peace of Vienna. Austria & France.—Pragmatic Sanction agreed to.	
1739	101	2	19	4	War		18 *Sept.* Peace of Belgrade. Austria & Turkey.—Nadir Shah invades India.—23 *Oct.* England: War with Spain.—25 *Dec.* "Great Frost" till 8 *Feb.* 1740.	46½
1740	99	3	0	7	”		20 *Oct.* Maria Theresa becomes Empress, by virtue of Pragmatic Sanction; which gave rise to the War of Austrian Succession.	
1741	95	3	3	1	”			
1742	100	3	0	0	”	Wilmington.	28 *June.* Peace of Berlin: King of Prussia & Queen of Hungary.—18 *Nov.* Treaty: England with Prussia.	
1743	101	2	19	4	”	Right Hon. Henry Pelham, except 2 days of "The Short-lived Ministry," 10 Feb. 1746.	15 *June.* Battle of Dettingen.—24 *June.* Treaty with Russia for 15 years.—7 *Aug.* Peace of Abo. Russia & Sweden.	
1744	94	3	3	10	”		31 *March.* War with France.—*Nov.* Broad Bottom Administration formed under Pelham.	
1745	89	3	7	4	”		30 *April.* Battle of Fontenoy. Second Scots' Rebellion.—21 *Sept.* Battle of Prestonpans.	
1746	82	3	13	2	”		16 *April.* Battle of Culloden.—1 *May.* Bank discounts at 4. No change till 1822.	
1747	83	3	12	3	”		25 *March.* Dividend on Bank Stock 5 per cent.	
1748	86	3	9	9	Peace		30 *April.* Peace of Aix-la-Chapelle. France and Spain.	78
1749	98	3	1	2	”		Interest on ¾ of National Debt reduced to 3½.	
1750	100	3	0	0	”			
1751	100	3	0	0	”			
1752	104	2	17	8	”		3 *Sept.* New Style adopted in England.	
1753	104	2	17	8	”		25 *March.* Dividend on Bank Stock 4½ per cent.	
1754	103	2	18	3	”	Duke of New-castle.		
1755	96	3	2	6	War		8 *June.* War began with France.—1 *Nov.* Lisbon destroyed by an earthquake.	
1756	89	3	7	4	”		9 *June.* Seven Years' War commenced.—*June.* Black Hole at Calcutta.	
1757	90	3	6	8	”	Duke of Newcastle & Right Hon. W. Pitt.	23 *June.* Battle of Plassy gained by Clive.—30 *Sept.* War between England and Austria.—Interest on great part of the National Debt reduced to 3 per cent.	
1758	92	3	5	2	”			
1759	83	3	12	3	”		*Sept.* Jesuits expelled from Portugal. Pombal in power.—13 *Sept.* Quebec. Death of Wolfe.	
1760	82	3	13	2	”		25 *Oct.* Accession George III.	
1761	79	3	15	11	”		15 *Aug.* Family Compact of branches of House of Bourbon, signed at Paris.	
1762	75	4	0	0	”	Bute.	23 *Jan.* War: England with Spain, on account of Family Compact.—5 *May.* Jesuits expelled from France.	
1763	89	3	7	4	Peace	Rt. Hon. Geo. Grenville.	10 *Feb.* Peace of Paris. Canada, Florida, &c. ceded.—15 *Feb.* Peace of Hubertsberg. End of Seven Years' War.	139
1764	84	3	11	5	”		29 *Sept.* Order of Jesuits suppressed in France. Div. on Bank Stock 5 per cent.	
1765	88	3	8	2	”	Rockingham.	22 *Mar.* American Stamp Act.	

⁂ From 1731 to 1789, the Average Price of Consols is from an unpublished work by Griffith Davies, Esq.

TABLE VIII.—*continued.*

AVERAGE PRICE of 3 ℘ Cent. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1860.

YEAR.	PRICE of CONSOLS.	AVERAGE RATE of INTEREST per Cent.			PEACE or WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£.	£.	s.	d.				Mill.
1766	89	3	7	4	Peace	Chatham.		
1767	89	3	7	4	„	Duke of Grafton.	JESUITS expelled from Spain.—Otaheite discovered by Wallis.—29 *Sept.* Div. on Bank Stock 5½.	
1768	91	3	5	11	„		JESUITS expelled from Naples.	
1769	88	3	8	2	„			
1770	83	3	12	3	„	Lord North from 10 Feb. 1770 to 19 March 1782.	New South Wales discovered by Capt. COOK.	
1771	86	3	9	9	„		22 *Jan.* Treaty: England and Spain. FALKLAND Islands ceded.	
1772	88	3	8	2	„		5 *Aug.* TREATY of PETERSBURG. Austria, Russia, and Prussia.—First Partition of POLAND.	
1773	87	3	8	11	„		16 *June.* WARREN HASTINGS first Gov.-Gen. of India.—17 *Aug.* Clement XIV. suppresses the JESUITS.—*Nov.* Insurrection at Boston.	
1774	88	3	8	2	War		21 *July.* PEACE: RUSSIA and TURKEY.—Freedom of Commerce and Navigation of Black Sea granted. War of AMERICAN INDEPENDENCE.	
1775	89	3	7	4	„		19 *April.* Hostilities at Lexington with North American Colonists.—17 *June.* BUNKER'S HILL.	
1776	84	3	11	5	„		4 *July.* AMERICAN Declaration of Independence.	
1777	78	3	16	11	„		11 *Sept.* Battle of BRANDYWINE.	
1778	64	4	13	8	„		6 *Feb.* Alliance: France and America.—13 *Mar.* War: England and France. War of Bavarian Succession.—8 *April.* Death of CHATHAM.	
1779	61	4	18	4	„		13 *July.* Spain joins the War against England.—*July.* Siege of GIBRALTAR began.	
1780	61	4	18	4	„		War with HYDER ALI.—2 to 7 *June.* Riots in London.—21 *Dec.* War: England and Holland.	
1781	58	5	3	5	„		In 1780 and 1781, First Convention of the Northern Powers for the Armed Neutrality.—29 *Sept.* Div. on Bank Stock 6 per cent.	
1782	58	5	3	5	„		30 *Nov.* Peace of Paris.—England accepts the Independence of U. S. of America.	
1783	64	4	13	8	„	Right Hon. William Pitt from 27 December 1783 to March 1801.	*Feb.* Siege of GIBRALTAR raised.—2 *Sept.* Peace with Holland.—3 *Sept.* Peace: England and America; also with France and Spain.	
1784	57	5	5	3	Peace		20 *June.* Treaty of Peace: England and Holland.	250
1785	60	5	0	0	„		8 *Feb.* Warren Hastings resigns and returns to England.—8 *Nov.* Treaty of Fontainbleau—Austria and Holland.	
1786	74	4	1	0	„		*Mar.* Mr. Pitt's plan for extinction of National Debt by a SINKING FUND.	
1787	74	4	1	0	„		22 *Feb.* First Assembly of the NOTABLES in Paris.	249¼
1788	75	4	0	0	„		25 *Mar.* Div. on Bank Stock 7.—25 *Sept.* Second Assembly of the NOTABLES in Paris convened.—12 *Oct.* George III. becomes deranged.	
1789	76⅜	3	18	6	„		23 *April.* George III. to St. Paul's on recovery.—14 *July.* Destruction of Bastile.	
1790	75⅝	3	19	3	„		19 *June.* Suppression of the Nobility, Monasteries, Religious Orders, &c. in France.	
1791	82¾	3	12	6	„		14 *Sep.* Louis XVI. accepts the first Constitution.	
1792	84¾	3	10	9	„		26 *June.* FIRST COALITION against France.—King of Prussia's Manifesto.—10 *Aug.* Kingly authority abolished in France.—*Nov.* British Militia ordered out.	
1793	75¾	3	19	2	War		17 *Jan.* Louis XVI. executed.—1 *Feb.* France declares War.—*Mar.* Second Partition of POLAND.—8 *April.* Congress of Antwerp.	244½
1794	67½	4	8	10	„		17 *May.* Habeas Corpus Act suspended.—1 *June.* Lord Howe's Victory.—29 *Oct.* Trial of John Horne Tooke.	
1795	65¾	4	11	3	„		25 *April.* Trial of Warren Hastings ended.—25 *Nov.* Third Partition of POLAND.	267
1796	61⅞	4	16	11	„		*Dec.* French Fleet at Bantry Bay.—6 *Dec* 18 Millions subscribed in 16 hours to support War.	328¾
1797	52	5	15	4	„		14 *Feb.* Victory off St. Vincent.—26. Bank Restriction.—5 *Mar.* Bank issue £1 Notes.—14 *April.* Mutiny at Nore.—1 *June.* Consols 47½.—17 *Oct.* TREATY of CAMPO FORMIO.—9 *Dec.* CONGRESS of RASTADT.	373½

⁂ From 1789 to 1848, the Average *Price* of Consols is from VAN SOMMER'S Tables.

TABLE VIII.—*continued.*

AVERAGE PRICE of 3 ₰ Cent. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1860.

YEAR.	PRICE of CONSOLS.	AVERAGE RATE of INTEREST per Cent.			PEACE or WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£.	£.	s.	d.				Mill.
1798	52⅝	5	14	0	War	Rt. Hon. Wm. Pitt.	23 *May.* Rebellion in Ireland.—1 *Aug.* Battle of the NILE.—22 *Aug.* French land in Ireland. —23 *Aug.* Lowest price of Consols 47½ per cent.	402¾
1799	60¾	4	18	9	”		3 *April.* Second General Coalition. Bonaparte in Egypt and Syria.—*Dec.* First Tax on Income, 5 per cent.	436⅔
1800	63⅝	4	14	3	”		Great Scarcity of Provisions.—16 *Dec.* TREATY of ARMED NEUTRALITY at Petersburg.	451⅖
1801	62⅛	4	16	7	”	Rt. Hon. H. Addington, 17 March 1801 to May 1804.	1 *Jan.* UNION with Ireland.—9 *Feb.* PEACE of LUNEVILLE.—21 *Mar.* ALEXANDRIA.—2 *April.* Danish Fleet taken.—1 *Oct.* Peace with France.	484½
1802	72½	4	2	9	Peace		27 *Mar.* PEACE of AMIENS.—25 *Oct.* Holkar defeats Scindia near Poona.	528¾
1803	61⅝	4	17	4	War		16 *Jan.* Despard's conspiracy.—14 *Mar.* War with France.—22 *May.* British subjects detained.—23 *Sept.* Battle of ASSAYE.	543¼
1804	56¼	5	6	8	”	Rt. Hon. W. Pitt.	20 *May.* Bonaparte declared Emperor.—12 *Dec.* War with Spain.	553⅔
1805	59½	5	0	9	”		21 *Oct.* TRAFALGAR.—13 *Nov.* French enter Vienna.—2 *Dec.* AUSTERLITZ.—25 *Dec.* Peace: France and Austria. Income Tax 6¼ per cent.	577
1806	61½	4	17	6	”	"All the Talents."	7 *April.* War with Prussia.—*July.* Income Tax raised to 10.—12 *July.* CONFEDERATION of the RHINE.—21 *Nov.* BERLIN DECREE.	607¾
1807	61	4	18	4	”	Duke of Portland 25 March 1807 to October 1809	25 *Mar.* Div. Bank Stock 10.—7 *July.* Peace of TILSIT.—*Sep.* Danish Fleet surrender.—17 *Dec.* MILAN DECREE.—18 *Dec.* War with Russia.—SLAVE TRADE ABOLISHED.	628
1808	65⅞	4	11	1	”		5 *May.* Treaty of Bayonne.—20 *July.* BAYLEN.—21 *Aug.* VIMIERA.—30 *Aug.* Convention of Cintra.	640¼
1809	66⅞	4	9	8	”		5 *Jan.* Peace with Turkey.—16 *Jan.* CORUNNA.—Death of Moore.—4 *May.* Napoleon enters Vienna.—27 *July.* TALAVERA.—23 *Nov.* WALCHEREN left.	650
1810	67⅛	4	9	4	”	Rt. Hon. Spencer Percival.	6 *April.* Sir F. Burdett to the Tower.—*July.* Great Commercial Distress.—27 *Sept.* Battle of BUSACO.	662
1811	64¼	4	13	4	”		5 *Feb.* Prince of Wales Prince Regent.—6 *Mar.* BARROSA.—10 *April.* War with America.	669⅓
1812	59	5	1	8	”	Earl of Liverpool from June 1812 to April 1827.	11 *May.* Percival assassinated.—1 *July.* French enter Russia.—22 *July.* SALAMANCA.—7 *Sept.* BORODINO.—14 *Sept.* MOSCOW.—28 *Nov.* BEREZINA.	684¾
1813	61	4	18	4	”		2 *May.* LUTZEN.—21 *June.* VITTORIA.—28 *Aug.* Battle before Dresden.—8 *Oct.* Wellington enters France.—16, 18 *Oct.* LEIPSIC.	716
1814	67	4	9	6	”		31 *Mar.* Allies enter Paris.—10 *April.* TOULOUSE.—8 *Aug.* Peace with America.—1 *Nov.* War with Nepaul.	799¼
1815	59¾	5	0	4	Peace		6 *Mar.* Riots about Corn Laws.—1 *Mar.* Napoleon lands from Elba; 21, enters Paris.—18 *June.* WATERLOO.—26 *Sept.* Holy Alliance.	821¾
1816	62	4	16	9	”		18 *Mar.* Income Tax repealed.—27 *Aug.* Algiers bombarded.—2 *Dec.* Riots in London. Spafields Mob.	864¾
1817	73⅛	4	2	0	”		*Feb. June.* Serious Disturbances.—1 *Oct.* Bank partially resumes Cash Payments.—6 *Nov.* Princess Charlotte dies.	848¼
1818	77½	3	17	4	”		9 *Oct.* Congress at Aix-la-Chapelle.	843½
1819	71⅞	4	3	5	”		PEEL'S Bill for Resumption of Cash Payments.—Discontent in Manufacturing Districts.—16 *Aug.* Manchester Meeting.—PANIC.	845
1820	67⅞	4	8	4	”		21 *Jan.* Revolution in Spain.—23 *Feb.* Cato Street Plot.—2 *July.* Revolution in Naples.—5 *July.* Trial of Queen Caroline.	843⅓
1821	73¾	4	1	4	”		*Mar.* Bank resume Cash Payments.—5 *May.* Napoleon died at St. Helena.—19 *July.* Coronation George IV.	842½
1822	79⅛	3	15	10	”		1 *Jan.* Greeks declare themselves free.—20 *June.* Bank discounts at 5.—5 *July.* Nav. 5 per Cents. reduced to 4.—20 *Oct.* Congress at Verona.	836¾
1823	78⅞	3	16	1	”		25 *Mar.* Div. Bank Stock 8.—7 *April.* French enter Madrid.—21 *Aug.* TROCADERO.—30 *Oct.* Consuls sent to the New States of South America.	838

TABLE VIII.—*continued.*

AVERAGE PRICE of 3 ℘ Cent. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1860.

YEAR.	PRICE of CONSOLS.	AVERAGE RATE of INTEREST per Cent.			PEACE or WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£.	£.	s.	d.				Mill.
1824	90¾	3	6	1	Peace	Earl of Liverpool.	5 *May*. Burmese War—Rangoon taken.—*Oct.* 4 per Cent. Stock converted into 3½ per Cents.	831
1825	84⅝	3	10	11	”		1 *Jan.* Canning recognizes Independence of South American States.—Great Commercial Distress.	817⅜
1826	79⅛	3	15	10	”		26 *Feb.* Peace with Burmese, who pay One Million. — 13 *Oct.* Lotteries abolished. — 1825-1826. PANIC.	814
1827	83⅛	3	12	2	”	Canning. Goderich	10 *April.* CANNING Minister.—5 *July.* Bank discounts at 4.—8 *Aug.* Canning dies.—20 *Oct.* NAVARINO.	812
1828	84⅝	3	10	11	”	Duke of Wellington.	25 *Jan.* Duke of WELLINGTON Minister.—9 *May.* Corporation and Test ACTS repealed.	807¾
1829	89⅞	3	6	9	”		24 *March.* New 4 per Cents. converted into 3½ per Cents.—13 *April.* CATHOLIC Bill passed.	804¾
1830	85⅞	3	9	10	”		26 *June.* WILLIAM IV. Accession.—*July.* REVOLUTION in Paris.—15 *Sept.* Liverpool & Manchester Railway opened.	800¾
1831	79¾	3	15	3	”	Earl Grey.	26 *Oct.* CHOLERA began at Sunderland.—29 *Oct.* Fatal Riots at Bristol.	789½
1832	83⅝	3	11	9	”		7 *June.* REFORM BILL passed.	787¼
1833	87¾	3	8	4	”		Bank Charter continued to 1 *August*, 1855.	789⅓
1834	90¼	3	6	5	”	Melbourne. Peel.	25 *July.* Glasgow Lottery, last allowed.—1 *Aug.* Slavery abolished in British Dominions.—16 *Oct.* Both Houses of Parliament burnt.	787⅓
1835	91	3	5	11	”	Visct. Melbourne from 18 April 1835.	*Aug.* Emancipation Loan, £15,000,000.—9 *Sept.* Corporation Reform Bill passed.	779
1836	89⅜	3	7	1	”		*July.* Bank discounts at 4½; *Sept.* at 5.—29 *Oct.* LOUIS NAPOLEON'S Strasburg Affair.	794½
1837	90⅞	3	6	0	”		20 *June.* QUEEN VICTORIA'S Accession.	796
1838	92⅞	3	4	7	”		*Jan.* Bank reduces discount to 4½.—10 *Jan.* Royal Exchange burnt.—12 *Dec.* Great Chartist Riots.	786¼
1839	91½	3	5	7	”		30 *May.* Bank discounts at 5; 20 *June*, 5½; 1 *Aug.* 6 per cent.—23 *July.* Battle of GHIZNEE.—4 *Nov.* Chartist Riots at Newport — John Frost.	785¼
1840	89⅜	3	7	1	”		*Jan.* Bank reduces discount to 5½; 26 *Nov.* to 5.—5 *Jan.* War with CHINA.—6 *Jan.* Postage One Penny.—6 *Aug.* L. NAPOLEON'S Boulogne Affair.	786½
1841	88⅞	3	7	6	”	Right Hon. Sir Robert Peel, 30 August 1841 to 3 July 1846.	*Oct.* Extensive Forgeries of Exchequer Bills discovered.—2 *Nov.* Massacre at CABUL.	787½
1842	91¾	3	5	4	”		8 *Jan.* Massacre in the CABUL Pass.—24 *Feb.* Bank discounts at 4; 1 *Sept.* at 3½.—5 *April.* Sortie from JELLALABAD.* 9 *Aug.* American Boundary Treaty.—29 *Aug.* Peace with CHINA.	790¾
1843	94⅝	3	3	5	”		17 *Feb.* SCINDE annexed.—*March.* Bank discounts at 3.—29 *Dec.* GWALIOR taken, the "Gibraltar of the East."	791¼
1844	98⅞	3	0	8	”		2 *May.* Sir H. HARDINGE appointed Governor-Gen. of India.—10 *Oct.* 3½ per Cents. reduced to 3¼ per Cents.—28 *Oct.* New Royal Exchange opened.—28 *Nov.* Bank discounts at 2½.	790½
1845	96¼	3	2	4	”		9 *Oct.* Bank Discount 3; 10th *Nov.* 3½.—21 *Dec.* Battle of FEROZESHAH.	787½
1846	95½	3	2	10	”	Lord John Russell, 3 July 1846 to 21 February 1852.	28 *Jan.* Battle of ALIWAL.—10 *Feb.* Battle of SOBRAON.—26 *June.* Sir R. PEEL'S CORN BILL passed.—26 *Aug.* Bank discounts at 3.—Potato crop failed.—Scarcity in Ireland.	785
1847	86⅜	3	9	5	”		Bank Discounts, 14 *Jan.* 3½; 21 *Jan.* 4; 8 *April*, 5; *Sept.* 6½; 26 *Oct.* 8; 22 *Nov.* 7; 2 *Dec.* 6; 23 *Dec.* 5.—*Oct.* Great Commercial Distress.—Nearly Ten Millions voted for Relief of Scarcity in Ireland in Session of 1847.	790⅓
1848	85	3	10	7	”		24 *Feb.* LOUIS PHILIPPE abdicated.—6 *Oct.* Insurrection in Vienna.—11 *Dec.* LOUIS NAPOLEON elected President.	791¾
1849	93¼	3	4	4	”		13 *Jan.* CHILLIANWALLAH.—22 *Jan.* MOOLTAN taken.—21 *Feb.* Battle of GOOJERAT.—23 *March.* NOVARO.—*Sept.* Cholera very severe in London.	791¾
1850	96⅝	3	2	1	”		2 *July.* Death of Sir ROBERT PEEL.—24 *Sept.* Pius IX. Bull establishing R. C. Hierarchy in England.	791
1851	97¾	3	1	4	”		2 *Dec.* LOUIS NAPOLEON seizes on Supreme Power in France.	787

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* *23 June, 1842.* PROPERTY AND INCOME-TAX, 7d. in the pound.

TABLE VIII.—*continued.*

AVERAGE PRICE OF 3 ℔ Cent. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1860.

YEAR.	PRICE of CON-SOLS.	AVERAGE RATE of INTEREST per Cent.			PEACE OR WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£.	£.	s.	d.				Mill.
1852	98⅞	3	0	8	Peace	Earl of Derby, Mar. to Dec. 1852.	21 *Feb.* Russell Ministry resign.—14 *Mar.* French 5 per cent. reduced to 4½ per cent. —*April.* Burmese War.—14 *Sept.* Death of Wellington.—1 *Nov.* Electric Telegraph to Paris.—2 *Dec.* Louis Napoleon declares himself Emperor of the French.	783
1853	95⅞	3	2	6	,,	Earl of Aberdeen, Dec. 1852 to 1 Feb. 1855.	*Jan.* Bullion in Bank £20, 71,925.—29 *Jan.* Marriage of Louis Napoleon.—4 *May.* Submarine Telegraph to Ostend.—3 *May.* Menzikoff presents Russian Ultimatum to the Porte.—20 *June.* Peace with Burmah. —2 *July.* Russian Army crosses the Pruth. —*Sept.* Cholera severe in London.—21 *Sept.* Conference at Olmutz, Austria and Russia. Great fall in the Funds at London and Paris.—27 *Sept.* The Porte declares War against Russia.—22 *Oct.* French and English Fleet enter the Bosphorus.—30 *Nov.* Russians destroy Turkish Fleet at Sinope.—5 *Dec.* France, England, Austria, and Prussia sign Protocol at Vienna for the re-establishment of peace between Russia and Turkey.	779⅓
1854	90½	3	6	3	War		12 *March.* Treaty between England, France, and Turkey.—27 *March.* France declares War against Russia.—28 *March.* England ditto.—22 *April.* Odessa bombarded.—15 *June.* Russians raise the Siege of Silistria.—20 *Sept.* Victory of the Alma.—17 *Oct.* Bombardment of Sebastopol began.—25 *Oct.* Balaclava.—5 *Nov.* Battle of Inkermann.—14 *Nov.* Dreadful Hurricane in Black Sea.	771
1855	90	3	6	8	,,	Lord Palmerston, From 8 Feb. 1855 to 19 Feb. 1858.	10 *Jan.* Sardinia joins the Western Powers. —14 *Jan.* French Loan 500 Millions of Francs—Subscription, 2175 Millions.—2 *March.* Death of Emperor Nicholas.—13 *April.* Electric Telegraph to Crimea completed. Loan 16 Millions. Rothschild.—18 *Aug.* Queen Victoria arrives in Paris, and visits Universal Exhibition.—8 *Sept.* Malakoff taken by the French.—Fall of Sebastopol.—29 *Sept.* Russians repulsed before Kars by Williams.—7 *Nov.* Bank of England* allowed to issue £475,000 additional notes.—Panic subsides.—26 *Nov.* Kars capitulates.—19 *Dec.* Treaty between Western Powers—Sweden and Norway.	780¾
1856	90¾	3	6	1	Peace		17 *Jan.* Russia accepts Austrian proposals for Peace.—1 *Feb.* Protocol signed at Vienna by all the Powers as basis of Peace.—7 *Feb.* Oude annexed.—29 *Feb.* Suspension of Hostilities in the Crimea.—29 *April.* Peace proclaimed in London.—8 *Oct.* Chinese seizure of a "*lorcha*" at Canton.—1 *Nov.* War proclaimed against Persia at Calcutta.	803½
1857	90¾	3	6	1	,,		24 *Jan.* Mutiny in India commenced.—3 *April.* Mutiny at Barrackpore.—*May* 10, 11. Mutiny at Meerut.—Mutineers march to Delhi.—20 *Aug.* Capture of Delhi.—12 *Nov.* Bank Charter Act of 1844 suspended by Government.—Panic abated and confidence restored.—17 *Nov.* Lucknow garrison relieved.	808
1858	96⅜	3	2	2	,,	Earl of Derby, From Feb. 1858.	19 *March.* Capture of Lucknow—26 *May.* Treaty with China.—5 *Aug.* Queen visits Cherbourg. 26 *Aug.* Treaty with Japan. —*Aug.* Telegraphic Communication with America opened.—1 *Sept.* Expiration of East India Company's Government of India. Victoria now Queen of India.	805⅛

* See Note (No. 3) Bank Discounts.

***N.B.—Property and Income*-Tax.** 16 June, 1854, 14*d.*; and 25 May, 1855, 16*d.* in the pound.

AVERAGE PRICE OF 3 ℔ CENT. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1867.

YEAR.	PRICE of CON-SOLS.	AVERAGE RATE of INTEREST per Cent.			PEACE or WAR.	CHIEF AD-MINISTRA-TIONS.	EVENTS, &c.	NATIONAL DEBT.
	£	£	s.	d.				Mill.
1859	$92\frac{11}{16}$	3	4	8	Peace	Earl of Derby, from Feb. 1858 to June, 1859.	*April.* Panic at Stock Exchange.—INDIAN Loan 5 Millions.—*May.* Battle of MONTEBELLO.—FRENCH Loan of 20 Millions.—4 *June.* Battle of MAGENTA.—24. SOLFERINO.—25. Repulse at PEIHO.—11 *July.* Peace of VILLAFRANCA. Lombardy ceded to France by Austria and transferred to Sardinia.—17 *Oct.* and 10 *Nov.* Treaty of Peace, AUSTRIA and FRANCE, signed at ZURICH. 20 *Oct.* War SPAIN and MOROCCO.	805
1860	$94\frac{1}{8}$	3	3	8	,,	Lord Palmerston, from June 1859 to his death, 18th October, 1865.	23 *Jan.* Treaty of Commerce, ENGLAND and FRANCE—"*Cobden Treaty.*"—22 *March.* SAVOY and NICE annexed to FRANCE.—26 *March.* Peace, SPAIN and MOROCCO.—11 *May.* GARIBALDI lands in SICILY.—16 *June.* Royal Conference at BADEN.—16 *June.* 4th Annual International STATISTICAL Congress in London.—23 *June.* RIFLE VOLUNTEERS reviewed in Hyde-park by Q. Victoria.—9 *Sept.* VICTOR EMMANUEL proclaimed King of ITALY at Naples by Garibaldi.—13 *Oct.* PEKIN occupied.—24 *Oct.* WARSAW Meeting.—RUSSIA, AUSTRIA, and PRUSSIA.—24 *Oct* Convention at PEKIN.	$802\frac{1}{5}$
1861	$91\frac{3}{4}$	3	5	4	,,		4 *Feb.* Freedom of Speech in FRENCH Chambers.—9 *Feb* JEFFERSON DAVIS elected President of SOUTHERN CONFEDERACY of American States.—14 *Feb.* GAETA surrendered.—17 *Feb.* MIRES arrested.—3 *March.* Russian Serfs emancipated.-13 *Mar.* VICTOR EMMANUEL declared King of ITALY by Italian Parliament.—26 *March.* British and Foreign Ambassadors installed at PEKIN.—9 *April.* SPAIN seizes ST DOMINGO.—19 *April.* LINCOLN proclaims blockade of the South —11 *June.* French declaration of neutrality in N.A. War.—17 *June* Spanish ditto —21 *July* Battle of BULL'S RUN, N A.—16 *Aug.* QUEEN visits IRELAND.—17 *Aug.* Post Office Savings Banks established —1 *Oct.* Treaty of Commerce, FRANCE, ENGLAND, and BELGIUM.—8 *Nov.* SLIDELL and MASON seized by Federals on English Mail Steamer.—14 *Dec.* Death of PRINCE ALBERT -24 *Dec.* ENGLAND & FRANCE send ultimatum to JUAREZ in MEXICO.	$801\frac{4}{5}$
1862	$93\frac{1}{4}$	3	4	4	,,		27 *Feb.* French leave VERA CRUZ —28 *Feb.* Treaty of Commerce, RUSSIA and TURKEY.—10 *March.* Treaty of Commerce, TURKEY, SWEDEN and NORWAY.—6 *April.* Battle of PETERSBURG, N. A.—28 *April.* Battle of PUEBLA, French and Mexicans.—1 *May* International Exhibition Opened.—5 *May.* French Repulsed at GUADALOUPE in MEXICO.—31 *May.* Battle of CHICKAHOMINY, N. A.—9 *June.* Slavery interdicted in Union Territory, N. A. 12 *July.* RUSSIA recognizes Kingdom of Italy.—21 *July.* Prussia ditto.—6 *Aug* Slavery Abolished in DUTCH GUIANA.—25 *Aug.* GARIBALDI lands in CALABRIA.—26 *Aug.* MONTENEGRINS defeated by the TURKS.—28 *Aug* Defeat and capture of GARIBALDI at ASPREMONTE —24 *Oct.* Revolution in GREECE, and flight of King OTHO.—23 *Nov.* PRINCE ALFRED refuses Crown of GREECE —10 *Dec* Cotton famine. 115,000 on relief funds. £700,000 subscribed	$800\frac{3}{4}$

AVERAGE PRICE OF 3 ℔ CENT. CONSOLIDATED ANNUITIES, with AVERAGE RATE of INTEREST. 1731 to 1867.

YEAR.	PRICE of CON-SOLS.	AVERAGE RATE of INTEREST per Cent.	PEACE or WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£					Mill.
1863	92⅝	3 4 9	Peace	Lord Palmerston from June 1859, to his death, 18 October, 1865.	17 *Jan.* Treaty of Commerce, France and Italy.—22 *Jan.* Revolution in Poland.—10 *March.* Prince of Wales married to Princess Alexandrina of Denmark.—29 *March.* Prince George of Denmark elected King of Greece.—7 *April.* England, France and Prussia remonstrate with Russia about Poland.—10 *May.* Revolution in Madagascar, Radama II. killed.—28 *May.* Rupture between England and Brazil.—17 *July.* Outbreak of Maories, New Zealand.—16 *Aug.* Congress of Sovereigns at Paris. Insurrection at St. Domingo.—16 *Oct.* Prince of Schleswig Holstein claims that Duchy.—15 *Nov.* Accession of Christian, King of Denmark.—21 *Nov.* Annexation of the Ionian Islands to Greece arranged.—21 *Dec.* Hostile troops enter Holstein.	799⅘
1864	90⅛	3 6 6	,,		21 *Jan.* Prussian troops enter Oldenburgh and Hamburgh.—11 *April.* The Chincha Islands seized by Spain.—28 *May.* Maximilian arrives in Mexico.—19 *June.* Confederate Steamer Alabama destroyed by the Kearsage.—18 *July.* Nankin taken, Taeping rebellion crushed.—1 *Aug.* Preliminaries of Peace signed at Vienna. Denmark cedes Holstein to Prussia and Austria.—18 *Aug* Conclusion of Maori War.—1 *Sept.* Spain recognizes Maximilian as Emperor of Mexico.—5 *Oct.* Violent Cyclone in the Bay of Bengal, 70,000 Lives Lost.—10 *Oct.* Treaty of Commerce, China and Spain.—11 *Nov.* England recognizes Maximilian.—6 *Dec.* Lincoln re-elected President of United States, N. A.	790½†
1865	89½	3 7 0	,,		8 *Feb.* Treaty of Commerce, France and Sweden.—12 *Feb.* Completion of Telegraphic communication with India.—14 *April.* President Lincoln assassinated, Johnson succeeds him.—10 *May.* Capture of President Davis.—7 *July.* American ports opened.—18th *July.* First great Fenian Meeting at Philadelphia.—27 *Aug.* Treaty of Gastein regarding Schleswig.—10 *Oct* Negro insurrection in Jamaica.—18 *Oct.* Death of Lord Palmerston.—11-24 *Nov.* Arrest and escape of Fenian Head Centre Stephens.—13 *Nov.* War between Chili and Spain.—10 *Dec.* Death of King Leopold of Belgium.	786½
1866	87⅞	3 8 3	,,	Earl Russel, from October, 1865 to July, 1866.	17 *Feb.* Suspension of the Habeas Corpus in Ireland.—23 *Feb.* War between Peru and Spain.—10 *May.* Stoppage of Overend, Gurney and Co. Panic in London. Government suspends Bank Charter Act.—14 *May.* Treaty of Alliance, Prussia and Italy.—7 *June.* Prussian troops enter Holstein.—18 *June.* Prussia declares War against Austria.—21 *June.* Fenian raid in Canada. Prussian troops enter Silesia and Bohemia.—24 *June.* Battle of Custozza: Austrians defeat Italians.—27 *June* Battle of Nachod: Prussians defeat Austrians.—3 *July.* Battle of Sadowa, do.—4 *July.* Venetia ceded by Austria to France.—16 *July.* Prussians occupy Frankfort.—18 *July.* Austrian fleet	781½

† £5,000,000 cancelled in 1864, and a terminable annuity created in lieu thereof.

Average Price of 3 ℔ Cent. Consolidated Annuities, with Average Rate of Interest. 1731 to 1870.

Year.	Price of Consols.	Average Rate of Interest per Cent.	Peace or War.	Chief Administrations.	EVENTS, &c.	National Debt.
	£					Mill.
1866	87⅞	3 8 3	Peace.	Earl Russell, from Oct, 1865 to July, 1866.	defeats Italian off Lissa.—23 *July* Reform Riot in Hyde Park.—27 *July*. Atlantic Cable laid to Newfoundland.—23 *Aug.* Treaty of Peace, Austria and Prussia.—2. *Sept.* Atlantic Cable of 1865 raised and completed.—6 *Sept.* King of Prussia annexes Hesse Cassel, Nassau, Hanover, and Frankfort-on-Main.—21 *Oct.* Treaty, Prussia and Saxony.—24 *Oct* Prince Charles of Hohenzollern accepted by the Sultan as Hospodar of the Danubian Principalities.	781½
1867	93	3 4 6	,,	Earl of Derby, from July, 1866 to February 24, 1868.	24 *Jan.* Schleswig-Holstein incorporated with Prussia.—13 *Feb.* Great Fenian Outbreak at Kerry.—Treaty, France, Prussia, and other Powers guaranteeing neutrality of Luxemburg.—8 *April*. Panic on Stock Exchange.—15 *May*. Queretaro in Mexico stormed, Maximilian taken prisoner.—6 *June*. Attempt at Paris to Assassinate Emperor of Russia.—8 *June*. Emperor of Austria crowned King of Hungary.—19. Maximilian executed.—12 *July*. Grand Naval Review at Spithead.—25 *Sept.* Arrest and Escape of Garibaldi.—18 *Oct.* Defeat of Garibaldians in Roman States.—28 *Oct.* Capture of Monte Rotondo by Garibaldi.—French Expedition to Civita Vecchia.—1 *Nov.* French Troops enter Rome, Italian Troops cross Papal Frontier.—13 *Dec.* Incendiary Fenian Explosion at Clerkenwell	
1868	93⅞	3 4 0	War with Abyssinia.	Disraeli, from Feb 24, 1868, to Dec. 2, 1868.	21 *March*. Poland incorporated with Russia.—23. Attack on British Legation at Japan.—*April* 12. Magdala stormed. Emp. Theodore commits suicide.—10 *June*. Prince Michael of Servia assassinated.—3 *Aug.* French Loan £17,000,000.—3 *Sept.* Spanish Revolution.—30 Flight of Queen Isabella.—3 *Nov.* Grant appointed President United States, N.A.—11. Alabama Convention signed.—3 *Dec.* Riots in Paris.	749
1869	92⅞	3 4 7	Peace.	Gladstone, from December 3, 1868.	0 *Jan.* Paris Conference declares Turkey and Greece must not disturb peace of Europe.—12 *Feb* Property of King of Hanover confiscated by Prussia.—26. Negro suffrage established, U S.—2 *Mar.* U.S. Pledged to pay debts in gold.—8 Newfoundland joins Dominion of Canada.—9 *April*. Hudson's Bay Co. agree to cede all their territory to Canada.—Senate U.S. rejects Alabama Treaty.—8 *June*. Treaty to regulate frontiers, Turkey and Persia.—14. Serrano elected Regent in Spain.—24 *July*. French Atlantic Cable completed. 26. Irish Church Bill passed.—31. Telegraphs Act passed.—6 *Sept.* French Senatus Consultum altering constitution adopted.—23 *Oct.* Death of Earl Derby.—17 *Nov.* Opening of Suez Canal.—8 *Dec.* Œcumenical Council met at Rome.	749½
1870	92⅝	3 4 9	,,		1 *Mar.* Defeat and death of Lopez, President of Paraguay.—2 *April*. Revolution in Venezuela.—21. Murder by Greek Brigands of English and Italian Secs. of Legation and others.—8 *May*. French Plebiscite votes confidence in Government, 7 mill. for, 1½ mill. against.—25 Fenian Raid into Canada.—21 *June*. Massacre	747½

AVERAGE PRICE OF 3 ℔ CENT. CONSOLIDATED ANNUITIES, with AVERAGE RATE OF INTEREST. 1731 to 1871.

YEAR.	PRICE of CONSOLS.	AVERAGE RATE OF INTEREST per Cent.	PEACE or WAR.	CHIEF ADMINISTRATIONS.	EVENTS, &c.	NATIONAL DEBT.
	£					Mill.
1870	92⅝	3 4 9	Peace.	Gladstone, from December 3, 1868.	of French at Tien-tsin.—27. Death of Earl Clarendon. —3 *July.* Announcement that Prince Leopold of Hohenzollern had accepted Crown of Spain 6 France objects.—11. Withdrawal of Prince Leopold.—16. France declares War against Prussia—18. Bavaria, Wurtemburg, Baden, and Hesse join Prussia—Œcumenical Council declares Infallibility of the Pope—19 British Declaration of Neutrality—23 Empress Eugenie appointed Regent of France.—1 *Aug.* Irish Land Bill passed.—2. French attack Saarbruck.—4. Prussians Storm Heights of Weissenburg.—6. Prussian Successes at Worth and Forbach.—8. French Army leaves Rome.—9-13. Treaty guaranteeing Neutrality of Belgium signed by England, Prussia, and France.—12. Surrender of Nancy.—14, 16, 18. Prussian Victories at Courcelle, Vionville, and Gravelotte.—19. Bombardment of Strasburg.—9 30, 31.—Prussian Successes at Montmedy, Beaumont, Douzy, and Bazeilles.—1 *Sept.* Battle of Sedan.—2. Surrender of Sedan, the Emperor Napoleon, 40 generals, and 100,000 prisoners taken.—4. Insurrection in Paris. Flight of Empress Regent.—5-13 Prussians occupy Rheims and Meaux.—17-20. Italians occupy Papal States and Rome.— 0. Paris invested.—24. Surrender of Toul.—France refuses to make Peace.—27. Orleans occupied.—28. Strasburg taken.—6 *Oct.* Prussian Head-quarters at Versailles.—9. Victor Emmanuel declares Rome and Papal States to form integral part of Italy.—16-18. Capture of Soissons and Vesoul.—21. Occupation of Chartres and St. Quentin.—27. Capture of Metz, 173,000 prisoners.—29. Occupation of Dijon.— *Nov.* Russian Despatch of Prince Gortchakoff repudiating treaty of 1856.—Election of Prince Amadeus of Italy to Throne of Spain.—18. Prussia proposes Conference to decide upon Russian claim to cancel treaty of 1856. 16, 25. Bavaria and Wurtemburg join German Confederation.—21. Rouen occupied—23-27. Thionville and La Fere taken.—28. Lord Granville agrees to Conference—Germans occupy Amiens.—30. Great Sortie from Paris repulsed.—3 *Dec.* Battle of Orleans—5 Prince Amadeus accepts Crown of Spain.—10 German Empire established.—12-24. Capture of Phalsburg and Montmedy.—21. Tours occupied.—27. Murderous attack on Prim—30 Death of Prim.—31. Victor Emmanuel enters Rome.	747½
1871					2 *Jan.* King Amadeus enters Madrid.—17. Congress meets in London to discuss Black-Sea Question.—19. King William of Prussia proclaimed Emperor of Germany.—28. Capitulation of Paris. Armistice for 21 days agreed upon—1 *Feb.* Engagements at Chauffaur and Tombacourt.—8. French National Assembly elected.—26. Treaty of Peace Prussia and France—1 *Mar.* Germans occupy Paris.—French Nat. Assembly ratifies Treaty.—3. Germans evacuate Paris	

TABLE IX.

STATEMENT of the ANNUAL AVERAGE PRICES of WHEAT, BARLEY, and OATS, in England and Wales, from 1771 to 1860.

Years.	ANNUAL AVERAGE PRICES ⅌ IMPERIAL QUARTER.						Years.	ANNUAL AVERAGE PRICES ⅌ IMPERIAL QUARTER.					
	WHEAT.		BARLEY.		OATS.			WHEAT.		BARLEY.		OATS.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
1771	48	7	26	5	17	2	1816	78	6	33	11	27	2
1772	52	3	26	1	16	8	1817	96	11	49	4	32	5
1773	52	7	29	2	17	8	1818	86	3	53	10	32	5
1774	54	3	29	4	18	4	1819	74	6	45	9	28	2
1775	49	10	26	9	17	0	1820	67	10	33	10	24	2
1776	39	4	20	9	15	5	1821	56	1	26	0	19	6
1777	46	11	21	1	16	1	1822	44	7	21	10	18	1
1778	43	3	23	4	15	7	1823	53	4	31	6	22	11
1779	34	8	20	1	14	5	1824	63	11	36	4	24	10
1780	36	9	17	6	13	2	1825	68	6	40	0	25	8
1781	46	0	17	8	14	1	1826	58	8	34	4	26	8
1782	49	3	23	2	15	7	1827	58	6	37	7	28	2
1783	54	3	31	3	20	5	1828	60	5	32	10	22	6
1784	50	4	28	8	18	10	1829	66	3	32	6	22	9
1785	43	1	24	9	17	8	1830	64	3	32	7	24	5
1786	40	0	25	1	18	6	1831	66	4	38	0	25	4
1787	42	5	23	4	17	2	1832	58	8	33	1	20	5
1788	46	4	22	8	16	1	1833	52	11	27	6	18	5
1789	52	9	23	6	16	6	1834	46	2	29	0	20	11
1790	54	9	26	3	19	5	1835	39	4	29	11	22	0
1791	48	7	26	10	18	1	1836	48	6	32	10	23	1
1792	43	0	27	7	16	9	1837	55	10	30	4	23	1
1793	49	3	31	1	20	6	1838	64	7	31	5	22	5
1794	52	3	31	9	21	3	1839	70	8	39	6	25	11
1795	75	2	37	5	24	5	1840	66	4	36	5	25	8
1796	78	7	35	4	21	10	1841	64	4	32	10	22	5
1797	53	9	27	2	16	3	1842	57	3	27	6	19	3
1798	51	10	29	0	19	5	1843	50	1	29	6	18	4
1799	69	0	36	2	27	6	1844	51	3	33	8	20	7
1800	113	10	59	10	39	4	1845	50	10	31	8	22	6
1801	119	6	68	6	37	0	1846*	54	8	32	8	23	8
1802	69	10	33	4	20	4	1847	69	9	44	2	28	8
1803	58	10	25	4	21	6	1848	50	6	31	6	20	6
1804	62	3	31	0	24	3	1849	44	3	27	9	17	6
1805	89	9	44	6	28	4	1850	40	3	23	6	16	5
1806	79	1	38	8	27	7	1851	38	6	24	9	18	7
1807	75	4	39	4	28	4	1852	40	9	28	6	19	1
1808	81	4	43	4	33	4	1853	53	3	33	2	21	0
1809	97	4	47	0	31	5	1854	72	5	36	0	27	11
1810	106	5	48	1	28	7	1855	74	8	34	9	27	5
1811	95	3	42	3	27	7	1856	69	2	41	1	25	2
1812	126	6	66	9	44	6	1857	56	4	42	1	25	0
1813	109	9	58	6	38	6	1858	44	2	34	8	24	6
1814	74	4	37	4	25	8	1859	43	9	33	6	23	2
1815	65	7	30	3	23	7	1860	53	3	36	7	24	5

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* On 26th June, 1846, Sir Robert Peel's CORN BILL was passed.

TABLE X.

TITHE COMMUTATION.

VALUE of a TITHE RENT CHARGE of £100, as fixed by the AVERAGE PRICES of WHEAT, BARLEY, and OATS, for the SEVEN YEARS preceding the years stated: Also the ANNUAL AVERAGE PRICES ⅌ Imperial Quarter for those respective years.

AVERAGE PRICES FOR SEVEN YEARS.							VALUE of a TITHE RENT CHARGE of £100.			ANNUAL AVERAGE PRICES ⅌ IMPERIAL QUARTER.					
Before the YEAR	WHEAT ⅌ Imperial Bushel.		BARLEY ⅌ Imperial Bushel.		OATS ⅌ Imperial Bushel.					WHEAT.		BARLEY.		OATS.	
	s.	d.	s.	d.	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.
1836	7	0¼	3	11½	2	9	100	0	0	48	6	32	10	23	1
1837	6	8½	3	11¾	2	9	98	13	9¾	55	10	30	4	23	1
1838	6	6¼	3	11¼	2	8¾	97	7	11	64	7	31	5	22	5
1839	6	6¼	3	9¼	2	8	95	7	9	70	8	39	6	25	11
1840	6	9	3	11¼	2	9¼	98	15	9½	66	4	36	5	25	8
1841	6	11¾	4	1	2	10¼	102	12	5¼	64	4	32	10	22	5
1842	7	3¾	4	2	2	11¼	105	8	2¼	57	3	27	6	19	3
1843	7	7½	4	1¼	2	10½	105	12	2¼	50	1	29	6	18	4
1844	7	7¾	4	0½	2	9½	104	3	5¼	51	3	33	8	20	7
1845	7	7	4	1¼	2	9	103	17	11¼	50	10	31	8	22	6
1846	7	4	4	1½	2	9	102	17	8¾	54	8	32	8	23	8
1847	7	0½	4	0	2	8½	99	18	10¼	69	9	44	2	28	8
1848	7	1¼	4	1½	2	9¼	102	1	0	50	6	31	6	20	6
1849	6	10¼	4	1¼	2	8¾	100	3	7¾	44	3	27	9	17	6
1850	6	7½	4	1¼	2	8½	98	16	10	40	3	23	6	16	5
1851	6	5¼	4	0	2	8	96	11	4¾	38	6	24	9	18	7
1852	6	2¾	3	10¼	2	7½	93	16	11¼	40	9	28	6	19	1
1853	6	0½	3	9½	2	6¾	91	13	5¾	53	3	33	2	21	0
1854	6	0	3	9½	2	6¼	90	19	5	72	5	36	0	27	11
1855	6	0¾	3	7¾	2	6	89	15	8¾	74	8	34	9	27	5
1856	6	6	3	8½	2	7½	93	18	1¼	69	2	41	1	25	2
1857	6	11¼	3	11¼	2	9¼	99	13	7¼	56	4	42	1	25	0
1858	7	2¾	4	3½	2	11	105	16	3½	44	2	34	8	24	6
1859	7	4	4	5½	3	0¼	108	19	6¼	43	9	33	6	23	2
1860	7	4½	4	6½	3	1¼	110	17	8½	53	3	36	7	24	5
1861	7	4½	4	7¼	3	2	112	3	4¾	55	4	36	1	23	9
1862	7	0¼	4	7¼	3	1	109	13	6	55	5	35	1	22	7
1863	6	8¼	4	7½	3	0	107	5	2	44	9	33	11	21	2
1864	6	3½	4	5¾	2	11¼	103	3	10¾	40	2	29	11	20	1
1865	6	0	4	3¼	2	10	98	15	10½	41	10	29	9	21	10
1866	5	11½	4	2¼	2	9½	97	7	9¼	49	11	37	5	24	7
1867	6	0¼	4	3	2	9¾	98	13	3	64	5	40	0	26	0
1868	6	3¼	4	3¾	2	10¼	100	13	8	63	9	43	0	28	1
1869	6	5¼	4	5¼	2	11	103	5	8¼	48	2	39	5	26	0
1870	6	3½	4	6¼	2	11¾	104	1	0¼	46	11	34	7	22	10
1871	6	4	4	6¼	3	0¼	104	15	1						

TABLE XI.

TABLE OF COINS AND CURRENCY.

☞ The values are calculated at the Mint price for Gold, viz. £3 17*s.* 10½*d.* ℔ oz. standard quality, and for Silver at 5*s.* ℔ oz. of standard quality.

Country.	Metal.	Denomination of Coin.	English Value.			Monies of Account.
			£	*s.*	*d.*	
AUSTRIA	Gold	*Souverain*	1	7	10½	Florin or Gulden of 100 Kreutzers.
		Ducat	0	9	5	
		Krone	1	7	4	
		½ Krone	0	13	8	
	Silver	Double Thaler = 3 Florins .	0	5	10	
		Thaler = 1½ Florins . . .	0	2	11	
		2 Florins or Guldens . .	0	3	11	
		Florin	0	1	11½	
BADEN		Same as Bavaria.				
BAVARIA	Gold	*Ducat*	0	9	4¼	Gulden of 60 Kreutzers.
		Krone	1	7	4	
	Silver	Gulden	0	1	8	
BELGIUM		Same as France.				
BOMBAY	Gold	*Mohur*	1	9	3	Rupee of 4 quarters = 400 reas.
		Pagoda	0	7	3¾	
	Silver	Rupee	0	1	10¼	
BOLIVIA	Gold	Quadruple	3	4	8	Piastre of 8 reals.
	Silver	Piastre	0	4	3	
		Real	0	0	6¼	
BRAZILS	Gold	10,000 Reis	1	2	5	Milreis of 1000 reis.
	Silver	2000 „	0	4	5	
		1000 „	0	2	2½	
		500 „	0	1	1¼	
		200 „	0	0	5¼	
BREMEN	Gold	*Louis*	0	16	5	Rixdaler of 72 grotes.
		Rixdaler	0	3	3½	
BRITISH PROVINCES, N. AMERICA	Silver	Dollar	0	4	2	Pounds of 20 Shillings = 240 Pence; also Dollar of 100 Cents.
		Dollar—Nominal currency value	0	5	0	
BRUNSWICK		Coins same as Prussia.				Thaler of 24 Gute Groschen.
CALCUTTA	Gold	*Mohur*	1	9	3	Rupee of 16 Annas.
		Pagoda	0	7	3¾	
	Silver	Rupee	0	1	10¼	
C. OF GOOD HOPE		Coins as in England.				Pounds, Shillings, and Pence; also in Rixdollars of 8 Shillings.
		Rixdollar in paper, nominal	0	1	6	
CENTRAL & S. AMERICA	Silver	Dollar or Piastre	0	4	3	Dollar of 8 Reales.
		Reale	0	0	6¼	
CHINA	Silver	Tael	0	6	6½	Tael = 10 Mace = 100 Candarees = 1000 cash.
DENMARK	Gold	*Christian*	0	16	7	Rigsdaler of 96 skillings.
	Silver	Specie Daler = 48 Styver .	0	4	5	
		Rigsdaler = 6 Mark . . .	0	2	2½	
		Mark	0	0	4½	
EGYPT	Gold	100 Piastres	1	0	3½	Piastre of 40 Paras.
	Silver	10 „	0	1	11½	
		1 „	0	0	2¼	

TABLE OF COINS AND CURRENCY—*continued.*

☞ The values are calculated at the Mint price for GOLD, viz. £3 17*s.* 10½*d.* ⅌ oz. standard quality, and for SILVER at 5*s.* ⅌ oz. of standard quality.

COUNTRY.	METAL.	DENOMINATION OF COIN.	ENGLISH VALUE.			MONIES OF ACCOUNT.
			£	*s.*	*d.*	
ENGLAND	GOLD	Sovereign weighs 5 dwts. 3¼ grs., and contains 113·1 pure gold.	1	0	0	Pound of 20 shillings = 240 pence.
	SILVER	*Crown* . . . Nominal	0	5	0	
		Florin . . . . Do. .	0	2	0	
		Shilling . . . . Do. .	0	1	0	
	BRONZE	Penny . . . . Do. .	0	0	1	
FRANCE	GOLD	20 Francs	0	15	10½	Franc of 100 Centimes.
	SILVER	5 „	0	3	11	
		2 „ . . . Nominal	0	1	7	
		1 „ . . . . . Do. .	0	0	9½	
FRANKFORT O' T' MAINE		Same as Bavaria .				Florin of 60 Kreutzers.
GIBRALTAR	GOLD	*Doubloon*	3	4	0	Dollar of 12 Reales.
	SILVER	*Hard Dollar*	0	4	2	
GREECE	GOLD	20 Drachmas	0	14	2½	Drachmè of 100 Lepta.
	SILVER	5 „	0	3	6	
		Drachmè	0	0	8½	
HAMBURGH	GOLD	*Ducat*	0	9	4½	Mark Banco of 16 Schillings ; 1 Schilling = 12 Pfennings.
	SILVER	3 Mark current	0	3	7	
		Mark current	0	1	2½	
		Mark Banco . Nominal	0	1	5½	
HANOVER		Coins same as Prussia.				Thaler of 24 Gute Groschen.
HOLLAND	GOLD	*Ducat*	0	9	4½	Guilder or Florin of 100 Cents, or 20 Stivers.
		20 Guilders	1	13	2	
		5 „	0	8	3½	
		Rixdaler = 2½ Guilders .	0	4	2	
	SILVER	Guilder	0	1	8	
ITALY		Coins same as France—Lira = Franc	0	0	9½	Lira of 100 Centesimi.
JAPAN	GOLD	Cobang	0	5	8	In Boos.
	SILVER	Boo	0	1	5	
LUBEC		Same as Hamburgh.				
MADRAS		Same as Calcutta.				
MEXICO	GOLD	Onza or Doubloon . . .	3	4	8	Dollar of 8 Reals ; 1 Real = 4 Quartillos.
		Pistole	0	16	2	
	SILVER	Dollar or Piastre	0	4	3	
		Real	0	0	6¼	
NORWAY	SILVER	Specie Daler	0	4	5	Specie Daler of 120 Skillings.
		Ort or Mark	0	0	10½	
		12 Skilling	0	0	5¼	
PIEDMONT		Coins same as France.				
POLAND		Coins same as Russia.				
PORTUGAL	GOLD	Crown of 5000 Reis . . .	1	3	11	Milreis of 1000 Reis.
		Milreis	0	4	8½	
	SILVER	Teston of 100 Reis . . .	0	0	4¾	
PRUSSIA	GOLD	*Freidrich*	0	16	5½	Thaler of 30 Silver Groschen.
		Krone	1	7	4	
	SILVER	Thaler	0	2	11	
		10 Silber Groschen . . .	0	0	11¾	
		5 „ . . .	0	0	5¾	
ROME	GOLD	10 Scudi	2	2	8	Scudo Romano of 100 Bajocchi.
	SILVER	Scudo = 10 Paoli	0	4	2	
		Paolo	0	0	5	

TABLE OF COINS AND CURRENCY—*continued.*

☞ The values are calculated at the Mint price for Gold, viz. £3 17*s.* 10½*d.* ⅌ oz. standard quality, and for Silver at 5*s.* ⅌ oz. of standard quality.

Country.	Metal.	Denomination of Coin.	English Value. £	*s.*	*d.*	Monies of Account.
RUSSIA	Gold	*Imperial*	1	12	2¼	Rouble of 100 Copecks.
	Silver	Rouble	0	3	1	
SAXONY		Coins same as Prussia.				Thaler of 30 New Groschen.
SPAIN	Gold	Onza or Doubloon . . .	3	4	8	Reals de Vellon of 100 Centimes.
		Cuarenta	0	8	2½	
		Durillo or Vienten . . .	0	4	1½	
	Silver	Duro	0	4	2	
		Escudo = 10 Reals Vellon .	0	2	1	
		Real Vellon	0	0	2½	
SWEDEN	Silver	Specie Rigsdaler	0	4	5	Rigsdaler Banco of 48 Skillings.
		Rigsdaler Banco	0	1	8	
SWITZERLAND		Silver coins same as France				Franc of 100 Centimes.
TURKEY	Gold	Medjidie or Lira = 100 Piastres	0	18	0	Piastre of 100 Aspres.
		Yarim or ½ Lira = 50 Piastres	0	9	0	
	Silver	Ghiumuk or silver Medjidie	0	3	6	
		Yarim or ½ silver Medjidie	0	1	9	
		Piastre = 40 Paras . . .	0	0	2¼	
UNITED STATES, N. A.	Gold	Eagle	2	0	11	Dollar of 100 Cents.
	Silver	Dollar	0	4	2	
WURTEMBURG	Gold	Krone	1	7	4	Gulden of 60 Kreutzers.
	Silver	Gulden	0	1	8	

N.B.—The Coins in italics are not now issued, but many remain in circulation.

British Standard Gold.

	oz.	dwts.			grains.
1 lb. contains	11	0	pure Gold	or	5280
and	1	0	Alloy	or	480
	12	0	= 1 lb.	or	5760

	dwts.	grs.			grains.
1 oz. contains	18	8	pure Gold	or	440
and	1	16	Alloy	or	40
	20	0	= 1 oz.	or	480

British Standard Silver.

	oz.	dwts.			grains.
1 lb. contains	11	2	pure Silver	or	5328
and	0	18	Alloy	or	432
	12	0	= 1 lb.	or	5760

	dwts.	grs.			grains.
1 oz. contains	18	12	pure Silver	or	444
and	1	12	Alloy	or	36
	20	0	= 1 oz.	or	480

STANDARD SILVER PLATE CONTAINS THE SAME ALLOY AS THE COIN.

Gold Plate and Jewellery are now stamped of the following fineness and value, the Hall Marks being numbered accordingly.

					£	*s.*	*d.*	
22 carat,	containing	11/12-ths	fine gold,	worth	£3	17*s.*	10½*d.*	per oz.
18 "	"	¾-ths	"	"	3	3	8½	
15 "	"	⅝-ths	"	"	2	13	1¼	
12 "	"	½	"	"	2	2	5¾	
9 "	"	⅜-ths	"	"	1	11	10¼	

TABLE XII.

MONIES OF ACCOUNT, AND PAR OF EXCHANGE.

TABLE showing the value of the MONIES OF ACCOUNT of the principal Places with which England has EXCHANGE transactions, Silver being valued at 5*s.* ℘ oz.; also the PAR OF EXCHANGE on this hypothesis.

			s.	*d.*			
PETERSBURG	100 Copecks	= 1 Rouble (Silver)	= 3	1½	giving	6 Roubles 40 Copecks	= £1.
BERLIN	30 Silver Groschen	= 1 Prussian Dollar	= 2	10¾	,,	6 Dollars 27 Silver Groschen	= £1.
COPENHAGEN	96 Skillings	= 1 Rig. Dollar	= 2	2⅛	,,	9 Dollars 10 Skillings	= £1.
HAMBURGH	16 Schillings	= 1 Mark	= 1.	5½	,,	13 Marks 10¼ Schillings	= £1.
AMSTERDAM	100 Centimes	= 1 Florin	= 1	8	,,	11 Florins 97 Centimes	= £1.
PARIS	100 Centimes	= 1 Franc	= 0	9⅓	,,	25 Francs 57 Centimes	= £1.
FRANKFORT	60 Kreutzers	= 1 Gulden	= 1	7⅞	,,	$12\frac{3}{40}$ Guldens or Florins	= £1.
VIENNA	100 Kreutzers	= 1 Florin	= 1	11½	,,	10 Florins 32 Kreutzers	= £1.
VENICE NAPLES GENOA LEGHORN	100 Centesimi	= 1 Lira Nuova	= 0	9⅓	,,	25 Lire 57 Centesimi	= £1.
MADRID	15 Reals Vellon	= 1 Dollar of Plate	= 3	1¾	,,	6 Dollars 5½ Reals	= £1.
Ditto	20 Reals Vellon	= 1 Hard Dollar	= 4	2	,,	4 Dollars 16 Reals	= £1.
LISBON	1000 Reas	= 1 Milreas	= 4	8	,,	4 Milreas 285 Reas	= £1.
NEW YORK	100 Cents	= 1 Dollar	= 4	2	,,	4 Dollars 80 Cents	= £1.
RIO JANEIRO	1000 Reas	= 1 Milreas	= 2	7	,,	7 Milreas 777 Reas	= £1.
HAVANNAH	100 Cents	= 1 Dollar	= 4	$6\frac{6}{100}$	,,	4 Dollars 44 Cents	= £1.

TABLE XIII.

MODERN ROAD MEASURE,

Being a Comparative View of the Itinerary Measures used in different Countries.

		Length in English Yards.		English Miles.		English Miles.	Miles, &c. of different Countries.
		Yards.		Miles. Parts.			Miles. Prts.
Arabia	Mile	2148.	100 =	122·04	and	100 =	81·93
Bohemia	do.	10137.	100 =	575·96	„	100 =	17·36
Brabant	League	6076.	100 =	345·22	„	100 =	28·96
Burgundy	do.	6183.	100 =	351·36	„	100 =	28·46
China	Li	632.	100 =	35·91	„	100 =	278·48
Denmark	Mile	8244.	100 =	468·41	„	100 =	21·35
England	do.	1760.	100 =	100·	„	100 =	100·
	Geographical Mile	2025.	100 =	115·05	„	100 =	86·91
Flanders	League	6864.	100 =	390·	„	100 =	25·64
France	Kilomètre	1093.	100 =	62·10	„	100 =	161·02
	Legal League of 2000 Toises	4263.	100 =	242·21	„	100 =	41·28
	Astronomical League	4860.	100 =	276·13	„	100 =	36·21
	Marine League	6076.	100 =	345·22	„	100 =	28·96
Germany	Long Mile	10126.	100 =	575·34	„	100 =	17·38
	Short Mile	6859.	100 =	389·71	„	100 =	25·66
	Geographical Mile	8101.	100 =	460·28	„	100 =	21·72
Hamburgh	Mile	8244.	100 =	468·41	„	100 =	21·35
Hanover	do.	11559.	100 =	656·76	„	100 =	15·22
Hesse	do.	10547.	100 =	599·26	„	100 =	16·68
Holland	do.	8101.	100 =	460·28	„	100 =	21·72
Hungary	do.	9113.	100 =	517·78	„	100 =	19·31
Ireland	do.	2240.	100 =	172·61	„	100 =	78·57
Italy	do.	2025.	100 =	115·05	„	100 =	86·91
Lithuania	do.	9781.	100 =	555·73	„	100 =	18·00
Oldenburgh	do.	10820.	100 =	614·77	„	100 =	16·26
Poland	Long Mile	8101.	100 =	460·28	„	100 =	21·72
	Short Mile	6075.	100 =	345·17	„	100 =	28·97
Portugal	League	6760.	100 =	384·09	„	100 =	26·03
Prussia	Mile	8237.	100 =	480·68	„	100 =	21·37
Rome	do.	1628.	100 =	92·50	„	100 =	108·11
Russia	Verst	1167.	100 =	66·30	„	100 =	150·81
Saxony	Mile	9905.	100 =	562·78	„	100 =	17·76
Scotland	do.	1984.	100 =	112·72	„	100 =	88·70
Silesia	do.	7083.	100 =	402·44	„	100 =	24·84
Spain	Common Legua of 8000 Varas	7416.	100 =	421·36	„	100 =	23·73
	Legal Legua of 5000 Varas	4635.	100 =	263·35	„	100 =	37·97
Swabia	Mile	10126.	100 =	575·34	„	100 =	17·38
Sweden	do.	11700.	100 =	664·77	„	100 =	15·04
Switzerland	do.	9153.	100 =	520·05	„	100 =	19·23
Turkey	Berri	1826.	100 =	103·75	„	100 =	96·38
Tuscany	Mile	1808.	100 =	102·72	„	100 =	97·34
Westphalia	do.	12151.	100 =	690·39	„	100 =	14·48

TABLE XIV.

ANCIENT ITINERARY MEASURE.

		Length in English Yards.	English Miles.	English Miles.	No. of each in 100 Engl. Miles.
		Yards.	Miles. Parts.		Prts.
JEWISH	RESINE . . . . 7½ = 1 Ancient Roman Mile.	215.	100 = 12·21	and 100 =	818·60
PERSIAN	PARASANG . . . . . 1 = $\frac{1}{20}$ of a Degree. 1 = 3 English Geo. Miles.	6075.	100 = 345·17	„ 100 =	28·97
EGYPTIAN	SCHŒNE . . . . 1 = 4 Ancient Roman Miles.	6448.	100 = 366·36	„ 100 =	27·29
GREEK	OLYMPIC STADIUM * . . 1 = ⅛ Ancient Roman Mile.	201½.	100 = 11·44	„ 100 =	873·44
	PYTHIC STADIUM †. . . 1 = $\frac{1}{10}$ Ancient Roman Mile.	161⅕.	100 = 9·16	„ 100 =	1091·81
ROMAN	ANCIENT MILE . . . . 1 = 8 Olympic Stadia.	1612.	100 = 91·59	„ 100 =	109·18
GALLIC	LEUCA . . . . 1 = 1½ Ancient Roman Mile.	2418.	100 = 137·38	„ 100 =	72·78
ARABIAN	GREAT MILE . . . . . . { Used in Palestine at the time of the Crusades. } 1 = 1½ Ancient Roman Mile.	2418.	100 = 137·38	„ 100 =	72·78

SCRIPTURE MEASURES OF LENGTH.

		Yards. Parts.		Feet. Parts.		
SCHŒNUS . .	=	46·20	or	138·60	or	138½ feet.
ARABIAN POLE .	=	4·62	„	13·86	„	14 „
EZEKIEL'S REED	=	3·465	„	10·395	„	10½ „
FATHOM . . .	=	2·31	„	6·93	„	7 „
SACRED CUBIT				= 1·7325	„	20¾ inches.
LESSER CUBIT				= 1·485	„	18 „
				Inches. Parts.		
SPAN				= 8·91	„	9 „
PALM				= 2·97	„	3 „
DIGIT				= 0·7425	„	¾ „

ANCIENT MEASURES.

		Inches. Parts.		
EGYPTIAN	cubit	= 13·00		
OLYMPIC	„	= 18·132	or	18⅛ inches.
PYTHIC	„	= 14·62	„	14⅝ „
OLYMPIC	foot	= 12·088	„	$12\frac{1}{11}$ „
PYTHIC	„	= 9·75	„	9¾ „
MACEDONIAN	„	= 13·92	„	$13\frac{9}{10}$ „
SICILIAN, of ARCHIMEDES	„	= 8·75	„	8¾ „
ROMAN	„	= 11·60	„	$11\frac{6}{10}$ „
Ditto	cubit	= 17·40	„	$17\frac{4}{10}$ „

* The OLYMPIC STADIUM was used in PELOPONNESUS—ATTICA—SICILY, and the GREEK CITIES in ITALY.

† The PYTHIC STADIUM was used in THESSALY—ILLYRIA—PHOCIS—THRACE, and at MARSEILLES in GAUL.

TABLE XV.

FRENCH WEIGHTS AND MEASURES.

LONG MEASURE.	1 Mètre	=	39·371	English inches.
	1 Hectomètre	=	328·09	„ feet.
	1 Kilomètre	=	1093·638	„ yards.
	1 Myriamètre	=	6·2138	„ miles.
SOLID MEASURE.	1 Stère or Cubic Mètre	=	35·3174	„ cubic feet.
MEASURE OF CAPACITY.	1 Litre	=	1·7608	„ imperial pints.
	1 Hectolitre	=	22·	„ imperial gallons.
SUPERFICIAL MEASURE.	1 Are	=	119·6046	„ square yards.
	1 Hectare	=	2·474	„ acres.
WEIGHT.	1 Gramme	=	15·434	„ grains troy.
	1 Kilogramme	=	2·6803	„ lbs. troy.
	1 Ditto	=	2·2055	„ lbs. avoirdupois.

In order to express the DECIMAL proportion, the following mode has been adopted:

For MULTIPLIERS—The addition of the word	DECA	means	10 times.
	HECTO	„	100 „
	KILO	„	1,000 „
	MYRIA	„	10,000 „
For DIVISORS—The addition of the word	DECI	expresses the	10th part.
	CENTI	„	100th „
	MILLI	„	1000th „

Thus, HECTOMETRE means 100 METRES.
CENTIMETRE means the 100th part of a METRE.

The TOISE usuelle = 2 METRES.
PIED, or FOOT = ⅓rd METRE.
INCH = 1/36th METRE.
AUNE = 1⅕th METRE.
BOISSEAU usuel = 12½ LITRES = 0·3439 Imperial BUSHEL, or rather more than ⅓rd.
LITRON usuel = 1·074 PARIS PINT or = 1¾ ENGLISH PINTS.

COMPARATIVE LENGTH OF THE FOOT IN DIFFERENT COUNTRIES.

	in. parts.		in. parts.
AUSTRIA (Vienna)	12·45	MALTA	11·16
BELGIUM (Antwerp) . . .	11·24	NAPLES (Palermo)	[illegible]
ENGLAND	12·	PRUSSIA (Berlin)	12·19
FRANCE (Pied du Roi) . .	12·78	RHINELAND	[illegible]
GENEVA	19·21	RUSSIA	[illegible]
HAMBURGH	11·28	SPAIN	11·12
HANOVER	11·45	SWEDEN	11·68
HOLLAND (Amsterdam) . .	11·14	VENICE	[illegible]

TABLE XV. (*continued.*)

FRENCH MEASURES.

VALUE OF MILLIMETRES IN ENGLISH INCHES.

Milli-metres.	English Inches.	Milli-metres.	English Inches.	Milli-metres.	English Inches.
1	0·0393 7079	75	2·9528	185	7·2835
2	0·0787 4158	80	3·1496	190	7·4804
3	0·1181 1237	85	3·3465	195	7·6773
4	0·1574 8316	90	3·5433	200	7·8741
5	0·1968 5895	95	3·7402	250	9·8426
6	0·2362 2474	100	3·9370	300	11·8112
7	0·2755 9553	105	4·1339	350	13·7797
8	0·3149 6632	110	4·3307	400	15·7483
9	0·3543 3711	115	4·5276	450	17·7168
10	0·3937 079	120	4·7244	500	19·6853
15	0·5905	125	4·9213	550	21·6539
20	0·7874	130	5·1182	600	23·6224
25	0·9842	135	5·3150	650	25·5910
30	1·1811	140	5·5119	700	27·5595
35	1·3779	145	5·7087	750	29·5280
40	1·5748	150	5·9056	800	31·4966
45	1·7716	155	6·1024	850	33·4651
50	1·9685	160	6·2993	900	35·4337
55	2·1653	165	6·4961	950	37·4022
60	2·3622	170	6·6930	1000	39·3707
65	2·5591	175	6·8898		
70	2·7559	180	7·0867		

TABLE OF THE CORRESPONDING HEIGHTS OF THE BAROMETER IN MILLIMETRES AND ENGLISH INCHES.

Milli-metres.	English Inches.	Milli-metres.	English Inches.	Milli-metres.	English Inches.
720	28·347	741	29·174	761	29·961
721	28·386	742	29·213	762	30·000
722	28·425	743	29·252	763	30·039
723	28·465	744	29·292	764	30·079
724	28·504	745	29·331	765	30·118
725	28·543	746	29·370	766	30·158
726	28·583	747	29·410	767	30·197
727	28·622	748	29·449	768	30·236
728	28·662	749	29·488	769	30·276
729	28·701	750	29·528	770	30·315
730	28·740	751	29·567	771	30·355
731	28·780	752	29·606	772	30·394
732	28·819	753	29·645	773	30·433
733	28·858	754	29·685	774	30·473
734	28·898	755	29·724	775	30·512
735	28·937	756	29·764		
736	28·976	757	29·803		
737	29·016	758	29·843		
738	29·055	759	29·882		
739	29·095	760	29·922		
740	29·134				

TABLE XVI.

SPECIFIC GRAVITIES.—TEMPERATURE 60° R. WATER = 1.

METALS.	SPECIFIC GRAVITY.	WEIGHT of CUBIC FOOT.	METALS.	SPECIFIC GRAVITY.	WEIGHT of CUBIC FOOT.
		lbs. pts.			lbs. pts.
PLATINUM	20·98	1311·25	NICKEL	8·27	516·87
GOLD	19·26	1203·75	IRON, Cast	7·25	453·12
IRIDIUM	18·68	1167·50	do., Malleable . . .	7·79	486·87
TUNGSTEN	17·50	1093·75	SOFT STEEL	7·83	489·37
MERCURY	13·57	848·12	MOLYBDENUM . . .	7·40	462·50
PALLADIUM	11·50	718·75	TIN	7·30	456·25
LEAD	11·35	709·37	ZINC	7·00	437·50
SILVER	10·47	654·37	MANGANESE	6·85	428·12
BISMUTH	9·80	612·50	ANTIMONY	6·70	418·75
URANIUM	9·00	562·50	TELLURIUM	6·10	381·25
COPPER	8·89	555·62	ARSENIC	5·80	362·50
CADMIUM	8·60	537·50	TITANIUM	5·30	331·25
COBALT	8·53	533·12	SODIUM *	0·97	60·62
BRASS	8·40	525·00	POTASSIUM	0·86	53·75

BUILDING AND OTHER MATERIALS.	SPECIFIC GRAVITY.	WEIGHT of CUBIC FOOT.	BUILDING AND OTHER MATERIALS.	SPECIFIC GRAVITY.	WEIGHT of CUBIC FOOT.
		lbs. pts.			lbs. pts.
ALABASTER	2·699	168·68	GRAVEL	1·900	118·75
BASALT	2·864	179·00	LIME, of Stone . . .	·843	52·69
BRICK	1·537	96·06	do. Chalk . . .	·704	44·00
do.	2·168	135·50	LIMESTONE, Balsover .	2·316	144·75
BRICKWORK in Cement	1·680	105·00	do. Blue-lias .	2·467	154·19
do. in Mortar	1·568	98·00	do. Plymouth	2·677	167·31
CONCRETE, Portland Cement	2·272	142·00	do. Purbeck .	2·601	162·56
			MARBLE, Statuary . .	2·638	164·87
do. common Lime	1·900	118·75	MORTAR	1·751	109·44
CEMENT, Portland . .	1·280	80·00	OOLITE, Bath . . .	1·839	114·94
do. Roman . .	1·040	65·00	do. Portland . .	2·145	134·06
CHALK	2·315	144·69	PORPHYRY	2·765	172·81
CLAY, Medway . . .	1·440	90·00	POZZOLANO	1·444	90·25
do. Common . . .	2·000	125·00	SAND, River	1·886	117·87
COAL, Newcastle . .	1·257	78·56	SANDSTONE, Bramley Fall	2·506	156·62
do. Welsh	1·337	83·56			
do. Cannel . . .	1·300	81·25	do. Darley Dale	2·628	164·25
do. do. . . .	1·400	87·50	do. Craigleith .	2·266	141·62
COKE	·744	46·50	do. York Landing . . .	2·320	145·00
FLINT	2·630	164·37			
GLASS, Plate	2·453	153·31	SERPENTINE, Green .	2·574	160·87
GRANITE, Cornish . .	2·662	166·37	SLATE, Welsh . . .	2·888	180·50
do. Aberdeen .	2·625	164·06	SULPHUR	2·033	127·06
do. Red Egyptian	2·654	165·87	TILE	1·815	113·44

COMPARATIVE VIEW OF SPECIFIC GRAVITIES. (DANIEL.)

	CUBIC INCHES.	WEIGHTS.	SPECIFIC GRAVITY, Air = 1.	SPECIFIC GRAVITY, Water = 1.
HYDROGEN	100	2·138 grains.	0·0694	0·0000846
AIR	100	31·000 ,,	1·0000	0·0012277
STEAM	100	19·220 ,,	0·6240	0·0007611
ICE	100	23735·000 ,,	765·0600	0·9100000
WATER	100	25250·000 ,,	814·0000	1·0000000
PLATINUM	100	542875·000 ,,	17512·0000	21·5000000

* *ALUMINIUM.* Sp. Gravity 2·6, and weight of Cubic Foot 162·50.

SPECIFIC GRAVITIES—*continued.*

TIMBER.	Specific Gravity.	Weight of Cubic Foot.	TIMBER.	Specific Gravity.	Weight of Cubic Foot.
		lbs. pts.			lbs. pts.
Alder	·800	50·00	Mahogany, Honduras	·560	35·00
Ash	·767	47·94	Oak, English . . .	·934	58·37
Beech	·777	48·56	„ Canadian . . .	·872	54·50
Birch	·792	49·50	„ Dantzic . . .	·756	47·25
Box	·960	60·00	Green Heart . . .	1·000	62·50
Cedar, American .	·561	35·06	Pear Tree	·661	41·31
Cork	·240	15·00	Pine, Red	·657	41·06
Ebony	1·250	78·12	„ American Yellow	·461	28·81
Elder	·695	43·44	Plane Tree . . .	·640	40·00
Elm	·588	36·75	Sycamore	·690	43·12
Larch	·522	32·62	Teak	·657	41·06
Lignum Vitæ . .	1·220	76·25	Walnut	·671	41·94
Mahogany, Spanish	·800	50·00	Willow	·585	36·56

LIQUIDS.	Specific Gravity.	Weight of Cubic Foot.	LIQUIDS.	Specific Gravity.	Weight of Cubic Foot.
		lbs. pts.			lbs. pts.
Water, distilled .	1·000	62·50	Oil of Turpentine .	·870	54·37
„ Sea . . .	1·028	64·25	Essential Oil of Lavender . . .	·894	55·87
„ of Dead Sea	1·240	77·50			
Alcohol	·835	52·19	Linseed Oil . . .	·940	58·75
Proof Spirit . .	·916	57·25	Olive Oil	·915	57·19
Port Wine . . .	·997	62·31	Whale Oil	·923	57·69
Bordeaux Wine .	·993	62·06			
Ether, Sulphuric .	·745	46·56	MISCELLANEOUS.		
Acids, Muriatic . .	1·194	74·62	Wax, Bees'	·964	60·25
Nitric . .	1·271	79·44	Spermaceti	·943	58·94
Sulphuric .	1·841	115·06	Tallow	·941	58·81
Ammonia, liquid .	·897	56·06	Butter	·942	58·87

GASEOUS BODIES.	Specific Gravity.	Weight of 100 Cubic Inches.	GASEOUS BODIES.	Specific Gravity.	Weight of 100 Cubic Inches.
		Grs. Pts.			Grs. Pts.
Hydrogen . . .	0·0694	2·118	Carbonic Acid . .	1·5277	46·596
Carbon	0·4166	12·708	Alcohol Vapour . .	1·6133	49·20
Steam of Water .	0·481	14·680	Cyanogen	1·8055	55·07
Sub-carburetted Hydrogen . . .	0·5555	17·000	Muriatic Ether . .	2·2562	67·68
			Sulphurous Acid .	2·222	67·77
Ammonia	0·5902	18·000	Phosphorus . . .	2·222	67·77
Carburetted Hydrogen	0·9722	29·65	Chlorine	2·500	76·25
			Sulphuric Ether Vapour . . .	2·586	78·87
Nitrogen or Azote	0·9722	29·65			
Prussic Acid . . .	0·9374	28·59	Nitrous Acid . . .	2·638	80·48
Atmospheric Air .	1·0000	30·519	Sulphuric Acid . .	2·777	84·72
Oxygen	1·1111	33·888	Sal-Ammoniac . .	3·746	114·3
Sulphur	1·1111	33·888	Nitric Acid . . .	3·75	114·37
Sulphuretted Hydrogen	1·1805	36·006	Hydriodic Acid . .	4·340	132·37
			Oil of Turpentine .	5·013	152·9
Muriatic Acid . .	1·2840	39·183	Chloric Acid . . .	5·277	160·97

NEW TABLE OF ELEMENTARY SUBSTANCES, WITH THEIR EQUIVALENTS AND SYMBOLS.

MONADS.

HYDROGEN .	H = 1	$H^2 O$, water.
FLUORINE . .	F = 19	$Ca F^2$, fluor spar.
CHLORINE . .	Cl = 35·5	$Cl^2 O^5$, chloric acid.
BROMINE . .	Br = 80	$Br^2 O^5$, bromic acid.
IODINE . .	I = 127	$I^2 O^5$, iodic acid.
LITHIUM . .	Li = 7	$Li^2 O$, lithia.
SODIUM . .	Na = 23	$Na^2 O$, soda.
POTASSIUM .	K = 39·1	$K^2 O$, potash.
RUBIDIUM .	Rb = 85·4	
CŒSIUM . .	Cs = 133	
THALLIUM .	Tl = 204	$Tl^2 O$, thallium oxide.
SILVER . . .	Ag = 108	$Ag Cl$, argentic chloride.

TRYADS.

NITROGEN . .	N = 14	$N^2 O^5$, nitric acid.
PHOSPHORUS .	P = 31	$P^2 O^5$, phosphoric acid.
ARSENIC . .	As = 75	$As^2 O^3$, arsenious acid.
ANTIMONY .	Sb = 122	$Sb^2 O^5$, antimonic acid.
BISMUTH . .	Bi = 210	$Bi Cl^3$, bismuth chloride.
BORON . . .	B = 11	$B^2 O^3$, boracic acid.
GOLD . . .	Au = 197	$Au Cl^3$, auric chloride.
VANADIUM .	V = 137	$V O^3$, vanadic trioxide.

DYADS, TETRADS, ETC.

OXYGEN . .	O = 16	$H^2 O$, water. [sulphuric acid.
SULPHUR . .	S = 32	$H^2 SO^4$, hydric sulphate, or
SELENIUM . .	Se = 79·5	$Se O^2$, selenious acid.
TELLURIUM .	Te = 129	$Te O^3$, telluric acid.
CALCIUM . .	Ca = 40	$Ca O$, lime.
STRONTIUM .	Sr = 87·5	$Sr O$, strontia.
BARIUM . .	Ba = 137	$Ba O$, baryta.
LEAD . . .	Pb = 207	$Pb O$, litharge.
MERCURY . .	Hg = 200	$Hg^2 Cl^2$, mercurous chloride.

DYADS, TETRADS, ETC.—*continued.*

MAGNESIUM .	Mg = 24	$Mg O$, magnesia.
ZINC . . .	Zn = 65	$Zn SO^4$, zinc sulphate.
CADMIUM . .	Cd = 112	$Cd O$, cadmic oxide.
INDIUM . .	In = 74	
ALUMINIUM .	Al = 27·5	$Al^2 O^3$, alumina.
IRON . . .	Fe = 56	$Fe^2 O^3$, ferric oxide.
CHROMIUM .	Cr = 52·5	$Cr O^3$, chromic acid.
MANGANESE .	Mn = 55	$Mn^2 O^3$, manganic oxide.
COBALT . .	Co = 58·5	$Co Cl^2$, co altous chloride.
NICKEL . .	Ni = 58·5	$Ni O$, nickelous oxide.
COPPER . .	Cu = 63·5	$Cu O$, cupric oxide.
GLUCINUM .	G = 9	$G O$, glucina.
YTTRIUM . .	Y = 64	
CERIUM . . .	Ce = 92	$Ce O$, ceric ozide.
LANTHAMUM	La = 92	
DIDIMIUM . .	Di = 96	
URANIUM . .	U = 120	$Ur^2 O^3$, uranic oxide.
ZIRCONIUM .	Zr = 89·5	
TANTALUM .	Ta = 138	
NIOBIUM . .	Nb = 195	
THORINUM .	Th = 238	
CARBON . .	C = 12	$C O^2$, carbonic acid.
SILICON . .	Si = 28	$Si O^2$, silica.
TIN	Sn = 118	$Sn O^2$, stannic oxide.
TITANIUM . .	Ti = 50	
MOLYBDENUM	Mo = 96	$M O^3$, molybdic acid.
TUNGSTEN .	W = 184	$W O^3$, tungstic acid.
PLATINUM .	Pt = 197·5	$Pt Cl^6$, platinic chloride.
IRIDIUM . .	Ir = 197	
OSMIUM . .	Os = 199	
RHODIUM . .	Ro = 104·4	
RUTHENIUM .	Ru = 104·4	
PALLADIUM .	Pd = 106·6	

TABLE XVII.

CHEMISTRY.

TABLE OF ELEMENTARY SUBSTANCES, WITH THEIR EQUIVALENTS AND SYMBOLS.

ELEMENT.	SYMBOL.	EQUIVALENT NUMBER.		COMPOUNDS WITH OXYGEN, ETC.
		H=1.	O=100	
ALUMINIUM	Al	13·75	171·87	$Al_2 O_3$, alumina.
ANTIMONY (Stibium)	Sb	122·	1525·	$Sb O_5$, antimonic acid.
ARSENICUM	As	75·	937·5	$As O_3$, white arsenic.
BARIUM	Ba	68·5	856·25	Ba O, baryta.
BISMUTH	Bi	210·	2625·	$Bi Cl_3$, chloride of bismuth.
BORON	B	10·9	136·25	$B O_3$, boracic acid.
BROMINE	Br	80·	1000·	$Br O_5$, bromic acid.
CADMIUM	Cd	56·	700·	Cd O, oxide of cadmium.
CALCIUM	Ca	20·	250·	Ca O, lime.
CARBON	C	6·	75·	$C O_2$, carbonic acid.
CERIUM	Ce	46·	575·	$Ce_2 O_3$, sesquioxide of cerium.
CHLORINE	Cl	35·5	443·75	$Cl O_5$, chloric acid.
CHROMIUM	Cr	26·3	328·75	$Cr O_3$, chromic acid.
COBALT	Co	29·5	368·75	Co Cl, chloride of cobalt.
COPPER (Cuprum)	Cu	31·75	396·875	Cu O, black oxide of copper.
DIDYMIUM	D	48·	600·	Di O, oxide of didymium.
ERBIUM	E	—	—	———
FLUORINE	F	19·	237·5	Ca Fl, fluor spar.
GLUCINUM	Gl	4·66	58·25	Gl O, glucina.
GOLD (Aurum)	Au	196·66	2458·25	$Au_2 Cl_3$, soluble chloride of gold.
HYDROGEN	H	1·	12·5	H O, water.
ILMENIUM	Il	—	—	———
IODINE	I	127·	1587·5	$I O_5$, iodic acid.
IRIDIUM	Ir	98·6	1232·5	Ir O, protoxide of iridium.
IRON (Ferrum)	Fe	28·	350·	$Fe_2 O_3$, red oxide of iron.
LANTANIUM	La	46·	575·	La O, oxide of lantanium.
LEAD (Plumbum)	Pb	103·5	1293·75	Pb O, litharge.
LITHIUM	L	7·	87·5	L O, lithia.
MAGNESIUM	Mg	12·16	152·	Mg O, magnesia.
MANGANESE	Mn	27·5	343·75	$Mn O_2$, black oxide of manganese.
MERCURY (Hydrargyrum)	Hg	100·	1250·	$Hg_2 Cl$, calomel. Hg Cl, corrosive sublimate.
MOLYBDENUM	M	48·	600·	$M O_3$, molybdic acid.
NICKEL	Ni	29·5	368·75	Ni O, protoxide of nickel.
NIOBIUM (Columbium)	Nb	48·8	610·	$Nb O_2$, niobic acid.
NITROGEN	N	14·	175·	$N O_5$, nitric acid.
OSMIUM	Os	99·5	1243·75	$Os O_4$, volatile oxide of osmium.
OXYGEN	O	8·	100·	H O, water.
PALLADIUM	Pd	53·24	665·50	Pd O, oxide of palladium.
PHOSPHORUS	P	31·	387·5	$P O_5$, phosphoric acid.
PLATINUM	Pt	98·56	1232·	$Pt Cl_2$, bichloride of platinum.
POTASSIUM (Kalium)	K	39·	487·5	K O, potash.
RHODIUM	Ro	52·16	652·	$Na Cl + Ro_2 Cl_3$, double chloride with sodium.

☞ See DR. MILLER'S ELEMENTS OF CHEMISTRY.

CHEMISTRY.

TABLE OF ELEMENTARY SUBSTANCES, WITH THEIR EQUIVALENTS AND SYMBOLS.

ELEMENT.	SYMBOL.	EQUIVALENT NUMBER.		COMPOUNDS WITH OXYGEN, ETC.
		H=1	O=100	
RUTHENIUM	Ru	52·11	651·37	$Ru_2\ Cl_3$, sesquichloride of ruthenium.
SELENIUM	Se	39·75	496·87	$Se\ O_3$, selenic acid.
SILICON	Si	14·	175·	$Si\ O_3$, silica.
SILVER (Argentum) . .	Ag	108·	1350·	Ag Cl, chloride of silver.
SODIUM (Natrium) . . .	Na	23·	287·5	Na O, soda.
STRONTIUM	Sr	43·75	546·87	Sr O, strontia.
SULPHUR	S	16·	200·	$S\ O_3$, sulphuric acid.
TANTALUM, or COLUMBIUM	Ta	68·8	860·	$Ta\ O_3$, tantalic acid.
TELLURIUM	Te	64·5	806·25	$Te\ O_3$, telluric acid.
TERBIUM	Tb	—	—	———
THORINUM	Th	59·5	743·75	Th O, thorina.
TIN (Stannum)	Sn	59·	737·5	$Sn\ O_2$, tinstone.
TITANIUM	Ti	25·	312·5	$Ti\ O_2$, titanic acid.
TUNGSTEN (Wolfram) . .	W	92·	1150·	$W\ O_3$, tungstic acid.
URANIUM	U	60·	750·	$U_2\ O_3$, uranic acid.
VANADIUM	V	68·46	855·78	$V\ O_3$, vanadic acid.
YTTRIUM	Y	—	—	Y O, yttria.
ZINC	Zn	32·75	409·37	Zn S, blende.
ZIRCONIUM	Zr	33·6	420·	$Zr_2\ O_3$, zirconia.

CLASSIFICATION OF ELEMENTARY SUBSTANCES.

NON-METALLIC ELEMENTS.	METALLIC ELEMENTS.			
1. OXYGEN. 2. NITROGEN. 3. HYDROGEN. 4. CARBON. 5. CHLORINE. 6. BROMINE. 7. IODINE. 8. FLUORINE. 9. SULPHUR. 10. SELENIUM. 11. PHOSPHORUS. 12. SILICON. 13. BORON.	**I. Of Alkalies.** 1. POTASSIUM. 2. SODIUM. 3. LITHIUM. **II. Of Alkaline Earths.** 1. BARIUM. 2. STRONTIUM. 3. CALCIUM. 4. MAGNESIUM. **III. Of the Earths.** 1. ALUMINIUM. 2. GLUCINUM. 3. ZIRCONIUM.	4. THORINUM. 5. YTTRIUM. 6. ERBIUM. 7. TERBIUM. 8. CERIUM. 9. LANTANIUM. 10. DIDYMIUM. **IV. Analogous to Iron.** 1. ZINC. 2. CADMIUM. 3. COBALT. 4. NICKEL. 5. URANIUM. 6. IRON.	7. CHROMIUM. 8. MANGANESE. **V. Yielding Acids.** 1. TIN. 2. TITANIUM. 3. COLUMBIUM. 4. NIOBIUM. 5. ILMENIUM. 6. MOLYBDENUM. 7. TUNGSTEN. 8. VANADIUM. 9. ANTIMONY. 10. ARSENIC. 11. TELLURIUM.	**VI. Metals.** 1. BISMUTH. 2. COPPER. 3. LEAD. **VII. Noble Metals.** 1. MERCURY. 2. SILVER. 3. GOLD. 4. PLATINUM. 5. PALLADIUM. 6. RHODIUM. 7. RUTHERIUM. 8. OSMIUM. 9. IRIDIUM.

CHEMISTRY.

CONDUCTION OF HEAT IN METALS, &c.

Gold	1000·
Silver	973·
Copper	898·2
Platinum	381·
Iron	374·3
Zinc	363·
Tin	303·9
Lead	179·6
Marble	23·6
Porcelain	12·2
Fire-clay	11·4

SPECIFIC HEAT.

Water	1·0000
Hydrogen Gas	3·2936
Aqueous Vapour	·8470
Alcohol	·7000
Ether	·6600
Oil	·5200
Nitrogen Gas	·2754
Air	·2669
Oxygen	·2361
Carbonic Acid	·2210
Charcoal	·2631
Sulphur	·1850
Iron	·1138
Zinc	·0955
Mercury	·0332
Platinum	·0324
Gold	·0298

EXPANSION OF METALS. 32° to 212°.

Steel	0·0011899	or	$\frac{1}{848}$
Silver	0·0020826	„	$\frac{1}{480}$
Copper	0·0019188	„	$\frac{1}{521}$
Iron Wire	0·0014401	„	$\frac{1}{694}$
Platina	0·00099218	„	$\frac{1}{1008}$
Palladium	0·0010000	„	$\frac{1}{1000}$

EXPANSION OF AERIFORM BODIES. — Atmospheric Air.

Temperature.	Bulk.	Temperature.	Bulk.
32°	100,000	130°	120,384
40	101,666	140	122,464
50	103,749	150	124,544
60	105,824	160	126,624
70	107,904	170	128,704
80	109,984	180	130,784
90	112,064	190	132,864
100	114,144	200	134,944
110	116,224	210	137,024
120	118,304	212	137,440

FORCE AND WEIGHT OF STEAM AT DIFFERENT TEMPERATURES.

Temperature.	Inches of Mercury.	Weight of Cubic Foot.
		Grains. Parts.
32°	0·216	2·53
40	0·280	3·23
50	0·400	4·53
60	0·560	6·22
70	0·770	8·39
80	1·060	11·33
90	1·430	15·00
212	30·000	257·218

LATENT HEAT OF VAPOURS. (Dr. Ure.)

Vapour of Water at 212°	1000·°
„ Alcohol	457·
„ Ether	312·9
„ Oil of Turpentine	183·8
„ Nitric Acid (S. G. 1·494)	550·
„ Ammonia (S. G. 0·978)	865·9
„ Vinegar (S. G. 1·007)	903·

LATENT HEAT.—(Dr. Irvine.)

Water	140·°
Sulphur	143·7
Spermaceti	145·
Lead	162·
Bees'-wax	175·
Zinc	494·
Tin	500·
Bismuth	550·

ABSORPTION OF GASES BY NEWLY BURNT CHARCOAL.

Charcoal = 1 Volume.

	Volumes.
Ammonia	90·
Muriatic Acid	85·
Sulphurous Acid	65·
Sulphuretted Hydrogen	55·
Nitrous Oxide	40·
Carbonic Acid	35·
Bi-carburetted Hydrogen	35·
Carbonic Oxide	9·4
Oxygen	9·2
Nitrogen	7·5
Carburetted Hydrogen	5·
Hydrogen	1·7

TABLE XVIII.

OPTICS.—POLARIZATION OF LIGHT, &c.

REFRANGIBILITY OF THE RAYS OF THE SPECTRUM.

Colour of Ray.	Water. Index of Refraction.	Crown Glass. Index of Refraction.	Flint Glass. Index of Refraction.
Red	1·3310	1·5258	1·6277
Orange . . .	1·3317	1·5268	1·6297
Yellow . . .	1·3336	1·5296	1·6350
Green . . .	1·3358	1·5330	1·6420
Blue	1·3378	1·5360	1·6483
Indigo . . .	1·3413	1·5417	1·6603
Violet . . .	1·3442	1·5466	1·6711

REFRACTIVE POWERS OF GASES AND VAPOURS.

	Bar. 30°.
Air	1·000
Oxygen	0·861
Nitrogen	1·034
Hydrogen	6·614
Ammonia	2·168
Carbonic Acid	1·004
Carburetted Hydrogen . .	2·092
Muriatic Acid	1·196
Chlorine	2·623
Alcohol Vapour	2·220
Ether Vapour	5·280
Sulphuret of Carbon Vapour	5·179
Cyanogen	2·832
Hydro-cyanic Acid	1·531
Sulphuretted Hydrogen . .	2·187
Carbonic Oxide	1·157

LIGHT IS POLARIZED BY REFLECTION, AT DIFFERENT ANGLES IN DIFFERENT SUBSTANCES.

	°	′	″
Air	45	0	32
Water	53	11	0
Fluor Spar	55	9	0
Obsidian	56	6	0
Sulphate of Lime . . .	56	45	0
Crown Glass	56	45	0
Rock Crystal	56	58	0
Sulphate of Barytes . .	58	33	0
Topaz	58	34	0
Mother of Pearl . . .	58	50	0
Iceland Spar	58	51	0
Spinelle Ruby	60	25	0
Zircon	63	0	0
Glass of Antimony . . .	64	30	0
Sulphur	63	45	0
Diamond	68	1	0
Chromate of Lead . . .	68	3	0

REFRACTIVE POWERS OF LIQUIDS AND SOLIDS.

Sulphuret of Carbon .	1·678	Chromate of Lead . .	2·974
Tolu Balsam	1·628	Diamond	2·439
Castor Oil	1·490	Phosphorus	2·224
Almond Oil	1·483	Calcareous Spar . .	1·654
Spirits of Turpentine .	1·475	Quartz	1·548
Sulphuric Acid . . .	1·434	Resin	1·559
Alcohol	1·372	Rock Salt	1·557
Ether	1·358	Ice	1·308
Water	1·335	Tabasheer	1·111

DIATHERMANCY.

Names of the interposed Substances, common thickness 0·1031 inch.
Out of 100 incident Rays,

Rock Salt	transmitted	92	Emerald	transmitted	29
Mirror Glass . . .	„	62	Gypsum	„	20
Rock Crystal . . .	„	62	Fluor Spar	„	15
Iceland Spar . . .	„	62	Citric Acid	„	15
Brown Rock Crystal	„	57	Rochelle Salt . .	„	12
Carbonate of Lead .	„	52	Alum	„	12
Sulphate of Barytes	„	33	Sulphate of Copper .	„	0

TABLE XIX.

The Corresponding Degrees on the Thermometer Scales of Fahrenheit, Celsus or Centigrade, and of Reaumur; with the effect of Temperature on Metals, &c., from various authorities.

Observed Effects of Temperature on Metals, &c.		Fahrenheit.	Fahrenheit.	Celsus or Centigrade.	Reaumur.
Iron and Platinum . .	*melt at above*	3280°	3281°	1805°	1444°
Cast Iron	*melts at*	2786	2786	1530	1224
Gold	”	2016	2012	1100	800
Copper	”	1996	1994	1090	872
Silver	”	1873	1877	1025	820
Zinc	”	773	770	410	328
Mercury	*boils at*	655	653	355	284
Lead	*melts at*	612	608	320	256
Sulphuric Acid (Spec. Gravity 1·848) . . .	*boils at*	600	599	315	252
Bismuth	*melts at*	476	473	245	196
Tin	”	442	446	230	184
Camphor	*boils at*	400	401	205	164
Oil of Turpentine . .	”	350	347	175	140
Volatile Oils	*boil about*	300	302	150	120
Camphor	*melts at*	288	284	140	112
Caoutchouc	”	248	248	120	96
Water (*BOILING POINT*)	*boils at*	212	212	100	80
Nitric Acid (Specific Gravity 1·500) . . .	”	210	203	95	76
Sodium	*melts at*	194	194	90	72
Sulphur	*volatilizes at*	180	185	85	68
Alcohol (Sp. Grav. ·813)	*boils at*	176	176	80	64
Acetic Ether	”	160	167	75	60
Wax—white	*melts at*	155	158	70	56
Wax—yellow	”	149	149	65	52
Ammonia	*boils at*	140	140	60	48
Potassium	*melts at*	136	131	55	44
Bisulphuret of Carbon	*boils at*	116	122	50	40
Phosphorus	*takes fire at*	100	113	45	36
Sulphuric Ether . .	*boils at*	100	104	40	32
Tallow	*congeals at*	92	95	35	28
Acetous Fermentation	*at about*	83	86	30	24
Prussic Acid	*boils at*	80	77	25	20
Vinous Fermentation .	*at about*	70	68	20	16
Hydrochloric Ether .	*boils at*	52	59	15	12
Acetic Acid	*congeals at*	50	50	10	8
Olive Oil	”	36	41	5	4
Water (*FREEZING POINT*)	”	32	32	0	0
Blood	”	25	23	– 5	– 4
Oil of Turpentine . .	”	14	14	10	8
Prussic Acid	”	4	5	15	12
Brandy	”	– 7	– 4	20	16
			13	25	20
Sulphuric Acid (Spec. Gravity 1·8064) . . .	”	26	22	30	24
Nitric Acid (Sp. Grav. 1·407)	”	30	31	35	28
Mercury	*solidifies at*	39	40	40	32

LOGARITHMS.

INTRODUCTION TO LOGARITHMS.

As the Index to the Logarithm is not introduced into the Table, it must be prefixed in use, according to the following scale.

When the natural number is

10	and does not amount to	100, the Index 1 is prefixed.
100	„ „	1,000, the Index 2 is prefixed.
1,000	„ „	10,000, the Index 3 is prefixed.
10,000	„ „	100,000, the Index 4 is prefixed.
100,000	„ „	1,000,000, the Index 5 is prefixed, and so on.

The Index of the Log. of any decimal fraction is a negative number, equal to unity added to the number of zeros immediately following the decimal point. The Index and Logarithm of ·00782 is $\bar{3}$·8932068, and the Index and Log. of ·782 is $\bar{1}$·8932068.

In many calculations it affords much facility, instead of employing negative Indices, to use their complements, and + 7· and + 9· are substituted for − 3· and − 1·—At a subsequent stage, it is necessary to deduct the 10 by which the Indices have been augmented.

☞ It has been recommended by Mr. Babbage to place the negative sign above the Index, as the decimal part of the Log. is not negative.

The Logarithms in Table XX. from **1** to **1200** are the Common or Briggs's Logarithms. It may perhaps be of use to state, that by Lord Neper's Table of Natural Logarithms,* the Log. of 10 is 2·3025850929940457, whereas by Briggs's Table the Log. of 10 is 1·00000, &c.

Therefore the Log. of any one number of Neper's Logs. ÷ by 2·302585, &c., or × by the ratio, 0·4342944819032518, &c., will give Briggs's Log. of the same number; and consequently the Log. of any one number of Briggs's Logs. × by 2·302585, &c., will give Neper's Log. of the corresponding number.

With the aid of the Table of Logs. from **1** to **1200**, there is no difficulty in ascertaining the Log. of any number less than 108000; in general, true to the 6th place, but I believe always to the 5th.

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* In 1850, Mr. Zacharias Dase published in Vienna a Table of Natural Logarithms, from 1 to 10,500, carried to 7 places of decimals. In the same year he visited London, and gave some of the most wonderful proofs of his extraordinary powers of mental calculation and memory. There can be no doubt that he could mentally extract the Square Root of 100 Figures in less than one hour; and it was well authenticated that he had in Germany undertaken and succeeded in mentally obtaining the result of 100 figures multiplied by 100 figures. It is a loss to the world, that the gifted talents of such a man should not be directed to results which might be useful to science, and which are not likely to be obtained by any other means, as we have but little hope that the splendid prospect opened by Mr. Babbage's Calculating Machine will ever be realized, the aid of Government having been withdrawn. Is there no chivalrous *Millionaire* of this country anxious to immortalize his name by being associated with the successful carrying out of Mr. Babbage's Calculating Machine? A slice of a Million would be well bestowed to obtain such a result.

The Rule which I have found to answer is—

1st. To divide the number, the Log. of which is wanted, by 5, until the whole number is exhausted, and the number of divisions made will give the first portion of the answer, from the annexed small Table of the Log. of 5, multiplied by the figures opposite, viz. 2 to 9.

2nd. Ascertain in the Table of Logs., the Log. of the three first decimals which are left after the divisions made.

3rd. Take the difference between the Log. last found and the Log. of the number one greater. Multiply this difference into the (four) remaining figures and divide by 10000.

4th. These three amounts, being added together, will produce the Log. of the given number.

Log. of 5.

Power.	Logarithm.
1	0·6989700
2	1·3979400
3	2·0969100
4	2·7958800
5	3·4948500
6	4·1938200
7	4·8927900
8	5·5917600
9	6·2907300

E.G. Required the Log. of 65421.

This number being divided by 5, seven times, will leave a decimal of ·8373888.

By the annexed Table, the division by 5, seven times, gives . 4·8927900
The Log. of ·837 by the Table of Logs. is . . . . . $\bar{1}$·9227255
And the part to be added for ·0003888 will be (as shown below) ·0002015

4·8157170
which is the Log. of 65421, true to the 6th place.

By the Table, the Log. of ·8380000 is $\bar{1}$·9232440
And Log. of ·8370000 is $\bar{1}$·9227255

The difference of these Logs. is ·0005185

Multiply this difference, viz. ·0005185 by the four remaining figures, viz. 3888, and divide by 10000. The amount thus obtained is the part to be added to complete the Logarithm.

The accuracy of the above method may be thus proved.

Let 4·815717 be the given Log. to find the corresponding number.

The given Log. being . . . 4·815717
By the Tables the Log. of 65000 . . . is 4·812913 being the nearest to the given Log.

1st difference is ·002804
By the Tables the Log. of 1·006 . . . is ·002598 being the nearest Log. to the remainder.

2nd difference is ·000206
And (see below) . ·000477 is the part to be added for } ·000206

1·006477

1st Factor. 2nd Factor.
65000 × 1·006477 = 65421, the number sought.

By the Table, Log. of 1·007 is ·003029
and Log. of 1·006 is ·002598

Difference . . . . . ·000431

By dividing ·000206 by ·000431, and again dividing the quotient by 1000, we obtain ·000477, which will complete the second factor.

TABLE XX.

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
1	·0 000 000	51	·7 075 702	101	·0 043 214	151	·1 789 769
2	·3 010 300	52	·7 160 033	102	·0 086 002	152	·1 818 436
3	·4 771 213	53	·7 242 759	103	·0 128 372	153	·1 846 914
4	·6 020 600	54	·7 323 938	104	·0 170 333	154	·1 875 207
5	·6 989 700	55	·7 403 627	105	·0 211 893	155	·1 903 317
6	·7 781 513	56	·7 481 880	106	·0 253 059	156	·1 931 246
7	·8 450 980	57	·7 558 749	107	·0 293 838	157	·1 958 997
8	·9 030 900	58	·7 634 280	108	·0 334 238	158	·1 986 571
9	·9 542 425	59	·7 708 520	109	·0 374 265	159	·2 013 971
10	·0 000 000	**60**	·7 781 513	**110**	·0 413 927	**160**	·2 041 200
11	·0 413 927	61	·7 853 298	111	·0 453 230	161	·2 068 259
12	·0 791 812	62	·7 923 917	112	·0 492 180	162	·2 095 150
13	·1 139 434	63	·7 993 405	113	·0 530 784	163	·2 121 876
14	·1 461 280	64	·8 061 800	114	·0 569 049	164	·2 148 438
15	·1 760 913	65	·8 129 134	115	·0 606 978	165	·2 174 839
16	·2 041 200	66	·8 195 439	116	·0 644 580	166	·2 201 081
17	·2 304 489	67	·8 260 748	117	·0 681 859	167	·2 227 165
18	·2 552 725	68	·8 325 089	118	·0 718 820	168	·2 253 093
19	·2 787 536	69	·8 388 491	119	·0 755 470	169	·2 278 867
20	·3 010 300	**70**	·8 450 980	**120**	·0 791 812	**170**	·2 304 489
21	·3 222 193	71	·8 512 583	121	·0 827 854	171	·2 329 961
22	·3 424 227	72	·8 573 325	122	·0 863 598	172	·2 355 284
23	·3 617 278	73	·8 633 229	123	·0 899 051	173	·2 380 461
24	·3 802 112	74	·8 692 317	124	·0 934 217	174	·2 405 492
25	·3 979 400	75	·8 750 613	125	·0 969 100	175	·2 430 380
26	·4 149 733	76	·8 808 136	126	·1 003 705	176	·2 455 127
27	·4 313 638	77	·8 864 907	127	·1 038 037	177	·2 479 733
28	·4 471 580	78	·8 920 946	128	·1 072 100	178	·2 504 200
29	·4 623 980	79	·8 976 271	129	·1 105 897	179	·2 528 530
30	·4 771 213	**80**	·9 030 900	**130**	·1 139 434	**180**	·2 552 725
31	·4 913 617	81	·9 084 850	131	·1 172 713	181	·2 576 786
32	·5 051 500	82	·9 138 139	132	·1 205 739	182	·2 600 714
33	·5 185 139	83	·9 190 781	133	·1 238 516	183	·2 624 511
34	·5 314 789	84	·9 242 793	134	·1 271 048	184	·2 648 178
35	·5 440 680	85	·9 294 189	135	·1 303 338	185	·2 671 717
36	·5 563 025	86	·9 344 985	136	·1 335 389	186	·2 695 129
37	·5 682 017	87	·9 395 193	137	·1 367 206	187	·2 718 416
38	·5 797 836	88	·9 444 827	138	·1 398 791	188	·2 741 578
39	·5 910 646	89	·9 493 900	139	·1 430 148	189	·2 764 618
40	·6 020 600	**90**	·9 542 425	**140**	·1 461 280	**190**	·2 787 536
41	·6 127 839	91	·9 590 414	141	·1 492 191	191	·2 810 334
42	·6 232 493	92	·9 637 878	142	·1 522 883	192	·2 833 012
43	·6 334 685	93	·9 684 829	143	·1 553 360	193	·2 855 573
44	·6 434 527	94	·9 731 279	144	·1 583 625	194	·2 878 017
45	·6 532 125	95	·9 777 236	145	·1 613 680	195	·2 900 346
46	·6 627 578	96	·9 822 712	146	·1 643 529	196	·2 922 561
47	·6 720 979	97	·9 867 717	147	·1 673 173	197	·2 944 662
48	·6 812 412	98	·9 912 261	148	·1 702 617	198	·2 966 652
49	·6 901 961	99	·9 956 352	149	·1 731 863	199	·2 988 531
50	·6 989 700	**100**	·0 000 000	**150**	·1 760 913	**200**	·3 010 300

TABLE XX.—*continued.*

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
201	·3 031 961	251	·3 996 737	301	·4 785 665	351	·5 453 071
202	·3 053 514	252	·4 014 005	302	·4 800 069	352	·5 465 427
203	·3 074 960	253	·4 031 205	303	·4 814 426	353	·5 477 747
204	·3 096 302	254	·4 048 337	304	·4 828 736	354	·5 490 033
205	·3 117 539	255	·4 065 402	305	·4 842 998	355	·5 502 284
206	·3 138 672	256	·4 082 400	306	·4 857 214	356	·5 514 500
207	·3 159 703	257	·4 099 331	307	·4 871 384	357	·5 526 682
208	·3 180 633	258	·4 116 197	308	·4 885 507	358	·5 538 830
209	·3 201 463	259	·4 132 998	309	·4 899 585	359	·5 550 944
210	·3 222 193	**260**	·4 149 733	**310**	·4 913 617	**360**	·5 563 025
211	·3 242 825	261	·4 166 405	311	·4 927 604	361	·5 575 072
212	·3 263 359	262	·4 183 013	312	·4 941 546	362	·5 587 086
213	·3 283 796	263	·4 199 557	313	·4 955 443	363	·5 599 066
214	·3 304 138	264	·4 216 039	314	·4 969 296	364	·5 611 014
215	·3 324 385	265	·4 232 459	315	·4 983 106	365	·5 622 929
216	·3 344 538	266	·4 248 816	316	·4 996 871	366	·5 634 811
217	·3 364 597	267	·4 265 113	317	·5 010 593	367	·5 646 661
218	·3 384 565	268	·4 281 348	318	·5 024 271	368	·5 658 478
219	·3 404 441	269	·4 297 523	319	·5 037 907	369	·5 670 264
220	·3 424 227	**270**	·4 313 638	**320**	·5 051 500	**370**	·5 682 017
221	·3 443 923	271	·4 329 693	321	·5 065 050	371	·5 693 739
222	·3 463 530	272	·4 345 689	322	·5 078 559	372	·5 705 429
223	·3 483 049	273	·4 361 626	323	·5 092 025	373	·5 717 088
224	·3 502 480	274	·4 377 506	324	·5 105 450	374	·5 728 716
225	·3 521 825	275	·4 393 327	325	·5 118 834	375	·5 740 313
226	·3 541 084	276	·4 409 091	326	·5 132 176	376	·5 751 878
227	·3 560 259	277	·4 424 798	327	·5 145 478	377	·5 763 414
228	·3 579 348	278	·4 440 448	328	·5 158 738	378	·5 774 918
229	·3 598 355	279	·4 456 042	329	·5 171 959	379	·5 786 392
230	·3 617 278	**280**	·4 471 580	**330**	·5 185 139	**380**	·5 797 836
231	·3 636 120	281	·4 487 063	331	·5 198 280	381	·5 809 250
232	·3 654 880	282	·4 502 491	332	·5 211 381	382	·5 820 634
233	·3 673 559	283	·4 517 864	333	·5 224 442	383	·5 831 988
234	·3 692 159	284	·4 533 183	334	·5 237 465	384	·5 843 312
235	·3 710 679	285	·4 548 449	335	·5 250 448	385	·5 854 607
236	·3 729 120	286	·4 563 660	336	·5 263 393	386	·5 865 873
237	·3 747 483	287	·4 578 819	337	·5 276 299	387	·5 877 110
238	·3 765 770	288	·4 593 925	338	·5 289 167	388	·5 888 317
239	·3 783 979	289	·4 608 978	339	·5 301 997	389	·5 899 496
240	·3 802 112	**290**	·4 623 980	**340**	·5 314 789	**390**	·5 910 646
241	·3 820 170	291	·4 638 930	341	·5 327 544	391	·5 921 768
242	·3 838 154	292	·4 653 829	342	·5 340 261	392	·5 932 861
243	·3 856 063	293	·4 668 676	343	·5 352 941	393	·5 943 926
244	·3 873 898	294	·4 683 473	344	·5 365 584	394	·5 954 962
245	·3 891 661	295	·4 698 220	345	·5 378 191	395	·5 965 971
246	·3 909 351	296	·4 712 917	346	·5 390 761	396	·5 976 952
247	·3 926 970	297	·4 727 564	347	·5 403 295	397	·5 987 905
248	·3 944 517	298	·4 742 163	348	·5 415 792	398	·5 998 831
249	·3 961 993	299	·4 756 712	349	·5 428 254	399	·6 009 729
250	·3 979 400	**300**	·4 771 213	**350**	·5 440 680	**400**	·6 020 600

TABLE XX.—*continued.*

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
401	·6 031 444	451	·6 541 765	501	·6 998 377	551	·7 411 516
402	·6 042 261	452	·6 551 384	502	·7 007 037	552	·7 419 391
403	·6 053 050	453	·6 560 982	503	·7 015 680	553	·7 427 251
404	·6 063 814	454	·6 570 559	504	·7 024 305	554	·7 435 098
405	·6 074 550	455	·6 580 114	505	·7 032 914	555	·7 442 930
406	·6 085 260	456	·6 589 648	506	·7 041 505	556	·7 450 748
407	·6 095 944	457	·6 599 162	507	·7 050 080	557	·7 458 552
408	·6 106 602	458	·6 608 655	508	·7 058 637	558	·7 466 342
409	·6 117 233	459	·6 618 127	509	·7 067 178	559	·7 474 118
410	·6 127 839	**460**	·6 627 578	**510**	·7 075 702	**560**	·7 481 880
411	·6 138 418	461	·6 637 009	511	·7 084 209	561	·7 489 629
412	·6 148 972	462	·6 646 420	512	·7 092 700	562	·7 497 363
413	·6 159 501	463	·6 655 810	513	·7 101 174	563	·7 505 084
414	·6 170 003	464	·6 665 180	514	·7 109 631	564	·7 512 791
415	·6 180 481	465	·6 674 530	515	·7 118 072	565	·7 520 484
416	·6 190 933	466	·6 683 859	516	·7 126 497	566	·7 528 164
417	·6 201 361	467	·6 693 169	517	·7 134 905	567	·7 535 831
418	·6 211 763	468	·6 702 459	518	·7 143 298	568	·7 543 483
419	·6 222 140	469	·6 711 728	519	·7 151 674	569	·7 551 123
420	·6 232 493	**470**	·6 720 979	**520**	·7 160 033	**570**	·7 558 749
421	·6 242 821	471	·6 730 209	521	·7 168 377	571	·7 566 361
422	·6 253 125	472	·6 739 420	522	·7 176 705	572	·7 573 960
423	·6 263 404	473	·6 748 611	523	·7 185 017	573	·7 581 546
424	·6 273 659	474	·6 757 783	524	·7 193 313	574	·7 589 119
425	·6 283 889	475	·6 766 936	525	·7 201 593	575	·7 596 678
426	·6 294 096	476	·6 776 070	526	·7 209 857	576	·7 604 225
427	·6 304 279	477	·6 785 184	527	·7 218 106	577	·7 611 758
428	·6 314 438	478	·6 794 279	528	·7 226 339	578	·7 619 278
429	·6 324 573	479	·6 803 355	529	·7 234 557	579	·7 626 786
430	·6 334 685	**480**	·6 812 412	**530**	·7 242 759	**580**	·7 634 280
431	·6 344 773	481	·6 821 451	531	·7 250 945	581	·7 641 761
432	·6 354 837	482	·6 830 470	532	·7 259 116	582	·7 649 230
433	·6 364 879	483	·6 839 471	533	·7 267 272	583	·7 656 686
434	·6 374 897	484	·6 848 454	534	·7 275 413	584	·7 664 128
435	·6 384 893	485	·6 857 417	535	·7 283 538	585	·7 671 559
436	·6 394 865	486	·6 866 363	536	·7 291 648	586	·7 678 976
437	·6 404 814	487	·6 875 290	537	·7 299 743	587	·7 686 381
438	·6 414 741	488	·6 884 198	538	·7 307 823	588	·7 693 773
439	·6 424 645	489	·6 893 089	539	·7 315 888	589	·7 701 153
440	·6 434 527	**490**	·6 901 961	**540**	·7 323 938	**590**	·7 708 520
441	·6 444 386	491	·6 910 815	541	·7 331 973	591	·7 715 875
442	·6 454 223	492	·6 919 651	542	·7 339 993	592	·7 723 217
443	·6 464 037	493	·6 928 469	543	·7 347 998	593	·7 730 547
444	·6 473 830	494	·6 937 269	544	·7 355 989	594	·7 737 864
445	·6 483 600	495	·6 946 052	545	·7 363 965	595	·7 745 170
446	·6 493 349	496	·6 954 817	546	·7 371 926	596	·7 752 463
447	·6 503 075	497	·6 963 564	547	·7 379 873	597	·7 759 743
448	·6 512 780	498	·6 972 293	548	·7 387 806	598	·7 767 012
449	·6 522 463	499	·6 981 005	549	·7 395 723	599	·7 774 268
450	·6 532 125	**500**	·6 989 700	**550**	·7 403 627	**600**	·7 781 513

TABLE XX.—*continued.*

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
601	·7 788 745	651	·8 135 810	701	·8 457 180	751	·8 756 399
602	·7 795 965	652	·8 142 476	702	·8 463 371	752	·8 762 178
603	·7 803 173	653	·8 149 132	703	·8 469 553	753	·8 767 950
604	·7 810 369	654	·8 155 777	704	·8 475 727	754	·8 773 713
605	·7 817 554	655	·8 162 413	705	·8 481 891	755	·8 779 470
606	·7 824 726	656	·8 169 038	706	·8 488 047	756	·8 785 218
607	·7 831 887	657	·8 175 654	707	·8 494 194	757	·8 790 959
608	·7 839 036	658	·8 182 259	708	·8 500 333	758	·8 796 692
609	·7 846 173	659	·8 188 854	709	·8 506 462	759	·8 802 418
610	·7 853 298	**660**	·8 195 439	**710**	·8 512 583	**760**	·8 808 136
611	·7 860 412	661	·8 202 015	711	·8 518 696	761	·8 813 847
612	·7 867 514	662	·8 208 580	712	·8 524 800	762	·8 819 550
613	·7 874 605	663	·8 215 135	713	·8 530 895	763	·8 825 245
614	·7 881 684	664	·8 221 681	714	·8 536 982	764	·8 830 934
615	·7 888 751	665	·8 228 216	715	·8 543 060	765	·8 836 614
616	·7 895 807	666	·8 234 742	716	·8 549 130	766	·8 842 288
617	·7 902 852	667	·8 241 258	717	·8 555 192	767	·8 847 954
618	·7 909 885	668	·8 247 765	718	·8 561 244	768	·8 853 612
619	·7 916 906	669	·8 254 261	719	·8 567 289	769	·8 859 263
620	·7 923 917	**670**	·8 260 748	**720**	·8 573 325	**770**	·8 864 907
621	·7 930 916	671	·8 267 225	721	·8 579 353	771	·8 870 544
622	·7 937 904	672	·8 273 693	722	·8 585 372	772	·8 876 173
623	·7 944 880	673	·8 280 151	723	·8 591 383	773	·8 881 795
624	·7 951 846	674	·8 286 599	724	·8 597 386	774	·8 887 410
625	·7 958 800	675	·8 293 038	725	·8 603 380	775	·8 893 017
626	·7 965 743	676	·8 299 467	726	·8 609 366	776	·8 898 617
627	·7 972 675	677	·8 305 887	727	·8 615 344	777	·8 904 210
628	·7 979 596	678	·8 312 297	728	·8 621 314	778	·8 909 796
629	·7 986 506	679	·8 318 698	729	·8 627 275	779	·8 915 375
630	·7 993 405	**680**	·8 325 089	**730**	·8 633 229	**780**	·8 920 946
631	·8 000 294	681	·8 331 471	731	·8 639 174	781	·8 926 510
632	·8 007 171	682	·8 337 844	732	·8 645 111	782	·8 932 068
633	·8 014 037	683	·8 344 207	733	·8 651 040	783	·8 937 618
634	·8 020 893	684	·8 350 561	734	·8 656 961	784	·8 943 161
635	·8 027 737	685	·8 356 906	735	·8 662 873	785	·8 948 697
636	·8 034 571	686	·8 363 241	736	·8 668 778	786	·8 954 225
637	·8 041 394	687	·8 369 567	737	·8 674 675	787	·8 959 747
638	·8 048 207	688	·8 375 884	738	·8 680 564	788	·8 965 262
639	·8 055 009	689	·8 382 192	739	·8 686 444	789	·8 970 770
640	·8 061 800	**690**	·8 388 491	**740**	·8 692 317	**790**	·8 976 271
641	·8 068 580	691	·8 394 780	741	·8 698 182	791	·8 981 765
642	·8 075 350	692	·8 401 061	742	·8 704 039	792	·8 987 252
643	·8 082 110	693	·8 407 332	743	·8 709 888	793	·8 992 732
644	·8 088 859	694	·8 413 595	744	·8 715 729	794	·8 998 205
645	·8 095 597	695	·8 419 848	745	·8 721 563	795	·9 003 671
646	·8 102 325	696	·8 426 092	746	·8 727 388	796	·9 009 131
647	·8 109 043	697	·8 432 328	747	·8 733 206	797	·9 014 583
648	·8 115 750	698	·8 438 554	748	·8 739 016	798	·9 020 029
649	·8 122 447	699	·8 444 772	749	·8 744 818	799	·9 025 468
650	·8 129 134	**700**	·8 450 980	**750**	·8 750 613	**800**	·9 030 900

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
801	·9 036 325	851	·9 299 296	901	·9 547 248	951	·9 781 805
802	·9 041 744	852	·9 304 396	902	·9 552 065	952	·9 786 369
803	·9 047 155	853	·9 309 490	903	·9 556 878	953	·9 790 929
804	·9 052 560	854	·9 314 579	904	·9 561 684	954	·9 795 484
805	·9 057 959	855	·9 319 661	905	·9 566 486	955	·9 800 034
806	·9 063 350	856	·9 324 738	906	·9 571 282	956	·9 804 579
807	·9 068 735	857	·9 329 808	907	·9 576 073	957	·9 809 119
808	·9 074 114	858	·9 334 873	908	·9 580 858	958	·9 813 655
809	·9 079 485	859	·9 339 932	909	·9 585 639	959	·9 818 186
810	·9 084 850	**860**	·9 344 985	**910**	·9 590 414	**960**	·9 822 712
811	·9 090 209	861	·9 350 032	911	·9 595 184	961	·9 827 234
812	·9 095 560	862	·9 355 073	912	·9 599 948	962	·9 831 751
813	·9 100 905	863	·9 360 108	913	·9 604 708	963	·9 836 263
814	·9 106 244	864	·9 365 137	914	·9 609 462	964	·9 840 770
815	·9 111 576	865	·9 370 161	915	·9 614 211	965	·9 845 273
816	·9 116 902	866	·9 375 179	916	·9 618 955	966	·9 849 771
817	·9 122 221	867	·9 380 191	917	·9 623 693	967	·9 854 265
818	·9 127 533	868	·9 385 197	918	·9 628 427	968	·9 858 754
819	·9 132 839	869	·9 390 198	919	·9 633 155	969	·9 863 238
820	·9 138 139	**870**	·9 395 193	**920**	·9 637 878	**970**	·9 867 717
821	·9 143 432	871	·9 400 182	921	·9 642 596	971	·9 872 192
822	·9 148 718	872	·9 405 165	922	·9 647 309	972	·9 876 663
823	·9 153 998	873	·9 410 142	923	·9 652 017	973	·9 881 128
824	·9 159 272	874	·9 415 114	924	·9 656 720	974	·9 885 590
825	·9 164 539	875	·9 420 081	925	·9 661 417	975	·9 890 046
826	·9 169 800	876	·9 425 041	926	·9 666 110	976	·9 894 498
827	·9 175 055	877	·9 429 996	927	·9 670 797	977	·9 898 946
828	·9 180 303	878	·9 434 945	928	·9 675 480	978	·9 903 389
829	·9 185 545	879	·9 439 889	929	·9 680 157	979	·9 907 827
830	·9 190 781	**880**	·9 444 827	**930**	·9 684 829	**980**	·9 912 261
831	·9 196 010	881	·9 449 759	931	·9 689 497	981	·9 916 690
832	·9 201 233	882	·9 454 686	932	·9 694 159	982	·9 921 115
833	·9 206 450	883	·9 459 607	933	·9 698 816	983	·9 925 535
834	·9 211 661	884	·9 464 523	934	·9 703 469	984	·9 929 951
835	·9 216 865	885	·9 469 433	935	·9 708 116	985	·9 934 362
836	·9 222 063	886	·9 474 337	936	·9 712 758	986	·9 938 769
837	·9 227 255	887	·9 479 236	937	·9 717 396	987	·9 943 172
838	·9 232 440	888	·9 484 130	938	·9 722 028	988	·9 947 569
839	·9 237 620	889	·9 489 018	939	·9 726 656	989	·9 951 963
840	·9 242 793	**890**	·9 493 900	**940**	·9 731 279	**990**	·9 956 352
841	·9 247 960	891	·9 498 777	941	·9 735 896	991	·9 960 737
842	·9 253 121	892	·9 503 649	942	·9 740 509	992	·9 965 117
843	·9 258 276	893	·9 508 515	943	·9 745 117	993	·9 969 492
844	·9 263 424	894	·9 513 375	944	·9 749 720	994	·9 973 864
845	·9 268 567	895	·9 518 230	945	·9 754 318	995	·9 978 231
846	·9 273 704	896	·9 523 080	946	·9 758 911	996	·9 982 593
847	·9 278 834	897	·9 527 924	947	·9 763 500	997	·9 986 952
848	·9 283 959	898	·9 532 763	948	·9 768 083	998	·9 991 305
849	·9 289 077	899	·9 537 597	949	·9 772 662	999	·9 995 655
850	·9 294 189	**900**	·9 542 425	**950**	·9 777 236	**1000**	·0 000 000

TABLE OF LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
1001	·0 004 341	1051	·0 216 027	1101	·0 417 873	1151	·0 610 753
1002	·0 008 677	1052	·0 220 157	1102	·0 421 816	1152	·0 614 525
1003	·0 013 009	1053	·0 224 284	1103	·0 425 755	1153	·0 618 293
1004	·0 017 337	1054	·0 228 406	1104	·0 429 691	1154	·0 622 058
1005	·0 021 661	1055	·0 232 525	1105	·0 433 623	1155	·0 625 820
1006	·0 025 980	1056	·0 236 639	1106	·0 437 551	1156	·0 629 578
1007	·0 030 295	1057	·0 240 750	1107	·0 441 476	1157	·0 633 334
1008	·0 034 605	1058	·0 244 857	1108	·0 445 398	1158	·0 637 086
1009	·0 038 912	1059	·0 248 960	1109	·0 449 315	1159	·0 640 834
1010	·0 043 214	**1060**	·0 253 059	**1110**	·0 453 230	**1160**	·0 644 580
1011	·0 047 512	1061	·0 257 154	1111	·0 457 141	1161	·0 648 322
1012	·0 051 805	1062	·0 261 245	1112	·0 461 048	1162	·0 652 061
1013	·0 056 094	1063	·0 265 333	1113	·0 464 952	1163	·0 655 797
1014	·0 060 380	1064	·0 269 416	1114	·0 468 852	1164	·0 659 530
1015	·0 064 660	1065	·0 273 496	1115	·0 472 749	1165	·0 663 259
1016	·0 068 937	1066	·0 277 572	1116	·0 476 642	1166	·0 666 986
1017	·0 073 210	1067	·0 281 644	1117	·0 480 532	1167	·0 670 709
1018	·0 077 478	1068	·0 285 713	1118	·0 484 418	1168	·0 674 428
1019	·0 081 742	1069	·0 289 777	1119	·0 488 301	1169	·0 678 145
1020	·0 086 002	**1070**	·0 293 838	**1120**	·0 492 180	**1170**	·0 681 859
1021	·0 090 257	1071	·0 297 895	1121	·0 496 056	1171	·0 685 569
1022	·0 094 509	1072	·0 301 948	1122	·0 499 929	1172	·0 689 276
1023	·0 098 756	1073	·0 305 997	1123	·0 503 798	1173	·0 692 980
1024	·0 103 000	1074	·0 310 043	1124	·0 507 663	1174	·0 696 681
1025	·0 107 239	1075	·0 314 085	1125	·0 511 525	1175	·0 700 379
1026	·0 111 474	1076	·0 318 123	1126	·0 515 384	1176	·0 704 073
1027	·0 115 704	1077	·0 322 157	1127	·0 519 239	1177	·0 707 765
1028	·0 119 931	1078	·0 326 188	1128	·0 523 091	1178	·0 711 453
1029	·0 124 154	1079	·0 330 214	1129	·0 526 939	1179	·0 715 138
1030	·0 128 372	**1080**	·0 334 238	**1130**	·0 530 784	**1180**	·0 718 820
1031	·0 132 587	1081	·0 338 257	1131	·0 534 626	1181	·0 722 499
1032	·0 136 797	1082	·0 342 273	1132	·0 538 464	1182	·0 726 175
1033	·0 141 003	1083	·0 346 285	1133	·0 542 299	1183	·0 729 847
1034	·0 145 205	1084	·0 350 293	1134	·0 546 131	1184	·0 733 517
1035	·0 149 403	1085	·0 354 297	1135	·0 549 959	1185	·0 737 184
1036	·0 153 598	1086	·0 358 298	1136	·0 553 783	1186	·0 740 847
1037	·0 157 788	1087	·0 362 295	1137	·0 557 605	1187	·0 744 507
1038	·0 161 974	1088	·0 366 289	1138	·0 561 423	1188	·0 748 164
1039	·0 166 155	1089	·0 370 279	1139	·0 565 237	1189	·0 751 819
1040	·0 170 333	**1090**	·0 374 265	**1140**	·0 569 049	**1190**	·0 755 470
1041	·0 174 507	1091	·0 378 248	1141	·0 572 856	1191	·0 759 118
1042	·0 178 677	1092	·0 382 226	1142	·0 576 661	1192	·0 762 763
1043	·0 182 843	1093	·0 386 202	1143	·0 580 462	1193	·0 766 404
1044	·0 187 005	1094	·0 390 173	1144	·0 584 260	1194	·0 770 043
1045	·0 191 163	1095	·0 394 141	1145	·0 588 055	1195	·0 773 679
1046	·0 195 317	1096	·0 398 106	1146	·0 591 846	1196	·0 777 312
1047	·0 199 467	1097	·0 402 066	1147	·0 595 634	1197	·0 780 942
1048	·0 203 613	1098	·0 406 023	1148	·0 599 419	1198	·0 784 568
1049	·0 207 755	1099	·0 409 977	1149	·0 603 200	1199	·0 788 192
1050	·0 211 893	**1100**	·0 413 927	**1150**	·0 606 978	**1200**	·0 791 812

LOGARITHMS.

LOGS. useful in working Questions of COMPOUND INTEREST for long periods of time.

£1 with INTEREST for One Year.	DECIMAL PART of LOGARITHM.	RATE PER CENT. in which this LOG. is used.	£1 with INTEREST for One Year.	DECIMAL PART of LOGARITHM.	RATE PER CENT. in which this LOG. is used.
£. 1·0025	·0 010 843 813	¼	£. 1·0325	·0 138 900 603	3¼
1·0050	·0 021 660 618	½	1·0350	·0 149 403 498	3½
1·0075	·0 032 450 548	¾	1·0375	·0 159 881 054	3¾
1·0100	·0 043 213 738	1	1·0400	·0 170 333 393	4
1·0125	·0 053 950 319	1¼	1·0425	·0 180 760 636	4¼
1·0150	·0 064 660 422	1½	1·0450	·0 191 162 904	4½
1·0175	·0 075 344 179	1¾	1·0475	·0 201 540 316	4¾
1·0200	·0 086 001 718	2	1·0500	·0 211 892 991	5
1·0225	·0 096 633 167	2¼	1·0525	·0 222 221 045	5¼
1·0250	·0 107 238 654	2½	1·0550	·0 232 524 596	5½
1·0275	·0 117 818 305	2¾	1·0575	·0 242 803 760	5¾
1·0300	·0 128 372 247	3	1·0600	·0 253 058 653	6

The LOG. of the RATE per CENT. × by the TIME + the LOG. of the AMOUNT, will give the LOG. of the answer or AMOUNT to which the MONEY will have accumulated at COMPOUND INTEREST in the given period.

MISCELLANEOUS RULES.

Length of an ARC . . . . =No. of Deg. × Rad. × ·01745329251994329.
Circumference of CIRCLE . . . =Diameter × 3·14159265358979323846264.
Area of CIRCLE* . . . . =Diameter^2 × ·78539816339744830961566.
ELLIPSE AREA. . . . . =T Axis × C Axis × ·7853981, &c.
SPHEROID CUBE . . . . =Rev. Axis 3 × f. Axis × ·5235987, &c.
SPHERE Surface . . . . =Diameter^2 × 3·14159, &c.
„ Cube . . . . =Diameter^3 × ·52359877559829887307711.
PARABOLA Area . . . . =⅔rds of Base × Height.
PARABOLOID Cube . . . . . . =½ Base × Height.
CONE and PYR. Sur. . . . . . . =½ girt of Base × slant Height.
„ „ Cube . . . . =Area of Base × ⅓ Height.
Area of any TRIANGLE . . . . =½ Base × Altitude.
Area of any PARALLELOGRAM . . =Base × Altitude.
Solid contents of any CUBE . . =Length × Breadth × Height.

* See NOTE (No. 4) on approximate Geometrical QUADRATURE of CIRCLE.

SQUARES, CUBES, ROOTS,

RECIPROCALS,

&c.

TABLE XXI.

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

NUMBER.	SQUARE.	CUBE.	SQUARE ROOT.	CUBE ROOT.	RECIPROCAL.
1	1	1	1·0 000 000	1·0 000 000	1·000 000 000
2	4	8	1·4 142 136	1·2 599 210	0·500 000 000
3	9	27	1·7 320 508	1·4 422 496	·333 333 333
4	16	64	2·0 000 000	1·5 874 011	·250 000 000
5	25	125	2·2 360 680	1·7 099 759	·200 000 000
6	36	216	2·4 494 897	1·8 171 206	·166 666 667
7	49	343	2·6 457 513	1·9 129 312	·142 857 143
8	64	512	2·8 284 271	2·0 000 000	·125 000 000
9	81	729	3·0 000 000	2·0 800 837	·111 111 111
10	100	1 000	3·1 622 777	2·1 544 347	·100 000 000
11	121	1 331	3·3 166 248	2·2 239 801	·090 909 091
12	144	1 728	3·4 641 016	2·2 894 286	·083 333 333
13	169	2 197	3·6 055 513	2·3 513 347	·076 923 077
14	196	2 744	3·7 416 574	2·4 101 422	·071 428 571
15	225	3 375	3·8 729 833	2·4 662 121	·066 666 667
16	256	4 096	4·0 000 000	2·5 198 421	·062 500 000
17	289	4 913	4·1 231 056	2·5 712 816	·058 823 529
18	324	5 832	4·2 426 407	2·6 207 414	·055 555 556
19	361	6 859	4·3 588 989	2·6 684 016	·052 631 579
20	400	8 000	4·4 721 360	2·7 144 177	·050 000 000
21	441	9 261	4·5 825 757	2·7 589 243	·047 619 048
22	484	10 648	4·6 904 158	2·8 020 393	·045 454 545
23	529	12 167	4·7 958 315	2·8 438 670	·043 478 261
24	576	13 824	4·8 989 795	2·8 844 991	·041 666 667
25	625	15 625	5·0 000 000	2·9 240 177	·040 000 000
26	676	17 576	5·0 990 195	2·9 624 960	·038 461 538
27	729	19 683	5·1 961 524	3·0 000 000	·037 037 037
28	784	21 952	5·2 915 026	3·0 365 889	·035 714 286
29	841	24 389	5·3 851 648	3·0 723 168	·034 482 759
30	900	27 000	5·4 772 256	3·1 072 325	·033 333 333
31	961	29 791	5·5 677 644	3·1 413 806	·032 258 065
32	1 024	32 768	5·6 568 542	3·1 748 021	·031 250 000
33	1 089	35 937	5·7 445 626	3·2 075 343	·030 303 030
34	1 156	39 304	5·8 309 519	3·2 396 118	·029 411 765
35	1 225	42 875	5·9 160 798	3·2 710 663	·028 571 429
36	1 296	46 656	6·0 000 000	3·3 019 272	·027 777 778
37	1 369	50 653	6·0 827 625	3·3 322 218	·027 027 027
38	1 444	54 872	6·1 644 140	3·3 619 754	·026 315 789
39	1 521	59 319	6·2 449 980	3·3 912 114	·025 641 026
40	1 600	64 000	6·3 245 553	3·4 199 519	·025 000 000
41	1 681	68 921	6·4 031 242	3·4 482 172	·024 390 244
42	1 764	74 088	6·4 807 407	3·4 760 266	·023 809 524
43	1 849	79 507	6·5 574 385	3·5 033 981	·023 255 814
44	1 936	85 184	6·6 332 496	3·5 303 483	·022 727 273
45	2 025	91 125	6·7 082 039	3·5 568 933	·022 222 222
46	2 116	97 336	6·7 823 300	3·5 830 479	·021 739 130
47	2 209	103 823	6·8 556 546	3·6 088 261	·021 276 600
48	2 304	110 592	6·9 282 032	3·6 342 411	·020 833 333
49	2 401	117 649	7·0 000 000	3·6 593 057	·020 408 163
50	2 500	125 000	7·0 710 678	3·6 840 314	·020 000 000

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

Number.	Square.	Cube.	Square Root.	Cube Root.	Reciprocal.
51	2 601	132 651	7·1 414 284	3·7 084 298	0·019 607 843
52	2 704	140 608	7·2 111 026	3·7 325 111	·019 230 769
53	2 809	148 877	7·2 801 099	3·7 562 858	·018 867 925
54	2 916	157 464	7·3 484 692	3·7 797 631	·018 518 519
55	3 025	166 375	7·4 161 985	3·8 029 525	·018 181 818
56	3 136	175 616	7·4 833 148	3·8 258 624	·017 857 143
57	3 249	185 193	7·5 498 344	3·8 485 011	·017 543 860
58	3 364	195 112	7·6 157 731	3·8 708 766	·017 241 379
59	3 481	205 379	7·6 811 457	3·8 929 965	·016 949 153
60	3 600	216 000	7·7 459 667	3·9 148 676	·016 666 667
61	3 721	226 981	7·8 102 497	3·9 364 972	·016 393 443
62	3 844	238 328	7·8 740 079	3·9 578 915	·016 129 032
63	3 969	250 047	7·9 372 539	3·9 790 571	·015 873 016
64	4 096	262 144	8·0 000 000	4·0 000 000	·015 625 000
65	4 225	274 625	8·0 622 577	4·0 207 256	·015 384 615
66	4 356	287 496	8·1 240 384	4·0 412 401	·015 151 515
67	4 489	300 763	8·1 853 528	4·0 615 480	·014 925 373
68	4 624	314 432	8·2 462 113	4·0 816 551	·014 705 882
69	4 761	328 509	8·3 066 239	4·1 015 661	·014 492 754
70	4 900	343 000	8·3 666 003	4·1 212 853	·014 285 714
71	5 041	357 911	8·4 261 498	4·1 408 178	·014 084 507
72	5 184	373 248	8·4 852 814	4·1 601 676	·013 888 889
73	5 329	389 017	8·5 440 037	4·1 793 392	·013 698 630
74	5 476	405 224	8·6 023 253	4·1 983 364	·013 513 514
75	5 625	421 875	8·6 602 540	4·2 171 633	·013 333 333
76	5 776	438 976	8·7 177 979	4·2 358 236	·013 157 895
77	5 929	456 533	8·7 749 644	4·2 543 210	·012 987 013
78	6 084	474 552	8·8 317 609	4·2 726 586	·012 820 513
79	6 241	493 039	8·8 881 944	4·2 908 404	·012 658 228
80	6 400	512 000	8·9 442 719	4·3 088 695	·012 500 000
81	6 561	531 441	9·0 000 000	4·3 267 487	·012 345 679
82	6 724	551 368	9·0 553 851	4·3 444 815	·012 195 122
83	6 889	571 787	9·1 104 336	4·3 620 707	·012 048 193
84	7 056	592 704	9·1 651 514	4·3 795 191	·011 904 762
85	7 225	614 125	9·2 195 445	4·3 968 296	·011 764 706
86	7 396	636 056	9·2 736 185	4·4 140 049	·011 627 907
87	7 569	658 503	9·3 273 791	4·4 310 476	·011 494 253
88	7 744	681 472	9·3 808 315	4·4 479 602	·011 363 636
89	7 921	704 969	9·4 339 811	4·4 647 451	·011 235 955
90	8 100	729 000	9·4 868 330	4·4 814 047	·011 111 111
91	8 281	753 571	9·5 393 920	4·4 979 414	·010 989 011
92	8 464	778 688	9·5 916 630	4·5 143 574	·010 869 565
93	8 649	804 357	9·6 436 508	4·5 306 549	·010 752 688
94	8 836	830 584	9·6 953 597	4·5 468 359	·010 638 298
95	9 025	857 375	9·7 467 943	4·5 629 026	·010 526 316
96	9 216	884 736	9·7 979 590	4·5 788 570	·010 416 667
97	9 409	912 673	9·8 488 578	4·5 947 009	·010 309 278
98	9 604	941 192	9·8 994 949	4·6 104 363	·010 204 082
99	9 801	970 299	9·9 498 744	4·6 260 650	·010 101 010
100	10 000	1 000 000	10·0 000 000	4·6 415 888	·010 000 000

TABLE XXI.—*continued.*

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

Number.	Square.	Cube.	Square Root.	Cube Root.	Reciprocal.
101	10 201	1 030 301	10·0 498 756	4·6 570 095	0·009 900 990
102	10 404	1 061 208	10·0 995 049	4·6 723 287	·009 803 922
103	10 609	1 092 727	10·1 488 916	4·6 875 482	·009 708 738
104	10 816	1 124 864	10·1 980 390	4·7 026 694	·009 615 385
105	11 025	1 157 625	10·2 469 508	4·7 176 940	·009 523 810
106	11 236	1 191 016	10·2 956 301	4·7 326 235	·009 433 962
107	11 449	1 225 043	10·3 440 804	4·7 474 594	·009 345 794
108	11 664	1 259 712	10·3 923 048	4·7 622 032	·009 259 259
109	11 881	1 295 029	10·4 403 065	4·7 768 562	·009 174 312
110	12 100	1 331 000	10·4 880 885	4·7 914 199	·009 090 909
111	12 321	1 367 631	10·5 356 538	4·8 058 955	·009 009 009
112	12 544	1 404 928	10·5 830 052	4·8 202 845	·008 928 571
113	12 769	1 442 897	10·6 301 458	4·8 345 881	·008 849 558
114	12 996	1 481 544	10·6 770 783	4·8 488 076	·008 771 930
115	13 225	1 520 875	10·7 238 053	4·8 629 442	·008 695 652
116	13 456	1 560 896	10·7 703 296	4·8 769 990	·008 620 690
117	13 689	1 601 613	10·8 166 538	4·8 909 732	·008 547 009
118	13 924	1 643 032	10·8 627 805	4·9 048 681	·008 474 576
119	14 161	1 685 159	10·9 087 121	4·9 186 847	·008 403 361
120	14 400	1 728 000	10·9 544 512	4·9 324 242	·008 333 333
121	14 641	1 771 561	11·0 000 000	4·9 460 874	·008 264 463
122	14 884	1 815 848	11·0 453 610	4·9 596 757	·008 196 721
123	15 129	1 860 867	11·0 905 365	4·9 731 898	·008 130 081
124	15 376	1 906 624	11·1 355 287	4·9 866 310	·008 064 516
125	15 625	1 953 125	11·1 803 399	5·0 000 000	·008 000 000
126	15 876	2 000 376	11·2 249 722	5·0 132 979	·007 936 508
127	16 129	2 048 383	11·2 694 277	5·0 265 257	·007 874 016
128	16 384	2 097 152	11·3 137 085	5·0 396 842	·007 812 500
129	16 641	2 146 689	11·3 578 167	5·0 527 743	·007 751 938
130	16 900	2 197 000	11·4 017 543	5·0 657 970	·007 692 308
131	17 161	2 248 091	11·4 455 231	5·0 787 531	·007 633 588
132	17 424	2 299 968	11·4 891 253	5·0 916 434	·007 575 758
133	17 689	2 352 637	11·5 325 626	5·1 044 687	·007 518 797
134	17 956	2 406 104	11·5 758 369	5·1 172 299	·007 462 687
135	18 225	2 460 375	11·6 189 500	5·1 299 278	·007 407 407
136	18 496	2 515 456	11·6 619 038	5·1 425 632	·007 352 941
137	18 769	2 571 353	11·7 046 999	5·1 551 367	·007 299 270
138	19 044	2 628 072	11·7 473 401	5·1 676 493	·007 246 377
139	19 321	2 685 619	11·7 898 261	5·1 801 015	·007 194 245
140	19 600	2 744 000	11·8 321 596	5·1 924 941	·007 142 857
141	19 881	2 803 221	11·8 743 422	5·2 048 279	·007 092 199
142	20 164	2 863 288	11·9 163 753	5·2 171 034	·007 042 254
143	20 449	2 924 207	11·9 582 607	5·2 293 215	·006 993 007
144	20 736	2 985 984	12·0 000 000	5·2 414 828	.006 944 444
145	21 025	3 048 625	12·0 415 946	5·2 535 879	·006 896 552
146	21 316	3 112 136	12·0 830 460	5·2 656 374	·006 849 315
147	21 609	3 176 523	12·1 243 557	5·2 776 321	·006 802 721
148	21 904	3 241 792	12·1 655 251	5·2 895 725	·006 756 757
149	22 201	3 307 949	12·2 065 556	5·3 014 592	·006 711 409
150	22 500	3 375 000	12·2 474 487	5·3 132 928	·006 666 667

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

Number.	Square.	Cube.	Square Root.	Cube Root.	Reciprocal.
151	22 801	3 442 951	12·2 882 057	5·3 250 740	0·006 622 517
152	23 104	3 511 808	12·3 288 280	5·3 368 033	·006 578 947
153	23 409	3 581 577	12·3 693 169	5·3 484 812	·006 535 948
154	23 716	3 652 264	12·4 096 736	5·3 601 084	·006 493 506
155	24 025	3 723 875	12·4 498 996	5·3 716 854	·006 451 613
156	24 336	3 796 416	12·4 899 960	5·3 832 126	·006 410 256
157	24 649	3 869 893	12·5 299 641	5·3 946 907	·006 369 427
158	24 964	3 944 312	12·5 698 051	5·4 061 202	·006 329 114
159	25 281	4 019 679	12·6 095 202	5·4 175 015	·006 289 308
160	25 600	4 096 000	12·6 491 106	5·4 288 352	·006 250 000
161	25 921	4 173 281	12·6 885 775	5·4 401 218	·006 211 180
162	26 244	4 251 528	12·7 279 221	5·4 513 618	·006 172 840
163	26 569	4 330 747	12·7 671 453	5·4 625 556	·006 134 969
164	26 896	4 410 944	12·8 062 485	5·4 737 037	·006 097 561
165	27 225	4 492 125	12·8 452 326	5·4 848 066	·006 060 606
166	27 556	4 574 296	12·8 840 987	5·4 958 647	·006 024 096
167	27 889	4 657 463	12·9 228 480	5·5 068 784	·005 988 024
168	28 224	4 741 632	12·9 614 814	5·5 178 484	·005 952 381
169	28 561	4 826 809	13·0 000 000	5·5 287 748	·005 917 160
170	28 900	4 913 000	13·0 384 048	5·5 396 583	·005 882 353
171	29 241	5 000 211	13·0 766 968	5·5 504 991	·005 847 953
172	29 584	5 088 448	13·1 148 770	5·5 612 978	·005 813 953
173	29 929	5 177 717	13·1 529 464	5·5 720 546	·005 780 347
174	30 276	5 268 024	13·1 909 060	5·5 827 702	·005 747 126
175	30 625	5 359 375	13·2 287 566	5·5 934 447	·005 714 286
176	30 976	5 451 776	13·2 664 992	5·6 040 787	·005 681 818
177	31 329	5 545 233	13·3 041 347	5·6 146 724	·005 649 718
178	31 684	5 639 752	13·3 416 641	5·6 252 263	·005 617 978
179	32 041	5 735 339	13·3 790 882	5·6 357 408	·005 586 592
180	32 400	5 832 000	13·4 164 079	5·6 462 162	·005 555 556
181	32 761	5 929 741	13·4 536 240	5·6 566 528	·005 524 862
182	33 124	6 028 568	13·4 907 376	5·6 670 511	·005 494 505
183	33 489	6 128 487	13·5 277 493	5·6 774 114	·005 464 481
184	33 856	6 229 504	13·5 646 600	5·6 877 340	·005 434 783
185	34 225	6 331 625	13·6 014 705	5·6 980 192	·005 405 405
186	34 596	6 434 856	13·6 381 817	5·7 082 675	·005 376 344
187	34 969	6 539 203	13·6 747 943	5·7 184 791	·005 347 594
188	35 344	6 644 672	13·7 113 092	5·7 286 543	·005 319 149
189	35 721	6 751 269	13·7 477 271	5·7 387 936	·005 291 005
190	36 100	6 859 000	13·7 840 488	5·7 488 971	·005 263 158
191	36 481	6 967 871	13·8 202 750	5·7 589 652	·005 235 602
192	36 864	7 077 888	13·8 564 065	5·7 689 982	·005 208 333
193	37 249	7 189 057	13·8 924 440	5·7 789 966	·005 181 347
194	37 636	7 301 384	13·9 283 883	5·7 889 604	·005 154 639
195	38 025	7 414 875	13·9 642 400	5·7 988 900	·005 128 205
196	38 416	7 529 536	14·0 000 000	5·8 087 857	·005 102 041
197	38 809	7 645 373	14·0 356 688	5·8 186 479	·005 076 142
198	39 204	7 762 392	14·0 712 473	5·8 284 767	·005 050 505
199	39 601	7 880 599	14·1 067 360	5·8 382 725	·005 025 126
200	40 000	8 000 000	14·1 421 356	5·8 480 355	·005 000 000

TABLE XXI.—*continued.*

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

Number.	Square.	Cube.	Square Root.	Cube Root.	Reciprocal.
201	40 401	8 120 601	14·1 774 469	5·8 577 660	0·004 975 124
202	40 804	8 242 408	14·2 126 704	5·8 674 643	·004 950 495
203	41 209	8 365 427	14·2 478 068	5·8 771 307	·004 926 108
204	41 616	8 489 664	14·2 828 569	5·8 867 653	·004 901 961
205	42 025	8 615 125	14·3 178 211	5·8 963 685	·004 878 049
206	42 436	8 741 816	14·3 527 001	5·9 059 406	·004 854 369
207	42 849	8 869 743	14·3 874 946	5·9 154 817	·004 830 918
208	43 264	8 998 912	14·4 222 051	5·9 249 921	·004 807 692
209	43 681	9 129 329	14·4 568 323	5·9 344 721	·004 784 689
210	44 100	9 261 000	14·4 913 767	5·9 439 220	·004 761 905
211	44 521	9 393 931	14·5 258 390	5·9 533 418	·004 739 336
212	44 944	9 528 128	14·5 602 198	5·9 627 320	·004 716 981
213	45 369	9 663 597	14·5 945 195	5·9 720 926	·004 694 836
214	45 796	9 800 344	14·6 287 388	5·9 814 240	·004 672 897
215	46 225	9 938 375	14·6 628 783	5·9 907 264	·004 651 163
216	46 656	10 077 696	14·6 969 385	6·0 000 000	·004 629 630
217	47 089	10 218 313	14·7 309 199	6·0 092 450	·004 608 295
218	47 524	10 360 232	14·7 648 231	6·0 184 617	·004 587 156
219	47 961	10 503 459	14·7 986 486	6·0 276 502	·004 566 210
220	48 400	10 648 000	14·8 323 970	6·0 368 107	·004 545 455
221	48 841	10 793 861	14·8 660 687	6·0 459 435	·004 524 887
222	49 284	10 941 048	14·8 996 644	6·0 550 489	·004 504 505
223	49 729	11 089 567	14·9 331 845	6·0 641 270	·004 484 305
224	50 176	11 239 424	14·9 666 295	6·0 731 779	·004 464 286
225	50 625	11 390 625	15·0 000 000	6·0 822 020	·004 444 444
226	51 076	11 543 176	15·0 332 964	6·0 911 994	·004 424 779
227	51 529	11 697 083	15·0 665 192	6·1 001 702	·004 405 286
228	51 984	11 852 352	15·0 996 689	6·1 091 147	·004 385 965
229	52 441	12 008 989	15·1 327 460	6·1 180 332	·004 366 812
230	52 900	12 167 000	15·1 657 509	6·1 269 257	·004 347 826
231	53 361	12 326 391	15·1 986 842	6·1 357 924	·004 329 004
232	53 824	12 487 168	15·2 315 462	6·1 446 337	·004 310 345
233	54 289	12 649 337	15·2 643 375	6·1 534 495	·004 291 845
234	54 756	12 812 904	15·2 970 585	6·1 622 401	·004 273 504
235	55 225	12 977 875	15·3 297 097	6·1 710 058	·004 255 319
236	55 696	13 144 256	15·3 622 915	6·1 797 466	·004 237 288
237	56 169	13 312 053	15·3 948 043	6.1 884 628	·004 219 409
238	56 644	13 481 272	15·4 272 486	6·1 971 544	·004 201 681
239	57 121	13 651 919	15·4 596 248	6·2 058 218	·004 184 100
240	57 600	13 824 000	15·4 919 334	6·2 144 650	·004 166 667
241	58 081	13 997 521	15·5 241 747	6·2 230 843	·004 149 378
242	58 564	14 172 488	15·5 563 492	6·2 316 797	·004 132 231
243	59 049	14 348 907	15·5 884 573	6·2 402 515	·004 115 226
244	59 536	14 526 784	15·6 204 994	6·2 487 998	·004 098 361
245	60 025	14 706 125	15·6 524 758	6·2 573 248	·004 081 633
246	60 516	14 886 936	15·6 843 871	6·2 658 266	·004 065 041
247	61 009	15 069 223	15·7 162 336	6·2 743 054	·004 048 583
248	61 504	15 252 992	15·7 480 157	6·2 827 613	·004 032 258
249	62 001	15 438 249	15·7 797 338	6·2 911 946	·004 016 064
250	62 500	15 625 000	15·8 113 883	6·2 996 053	·004 000 000

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

NUMBER.	SQUARE.	CUBE.	SQUARE ROOT.	CUBE ROOT.	RECIPROCAL.
251	63 001	15 813 251	15·8 429 795	6·3 079 935	0·003 984 064
252	63 504	16 003 008	15·8 745 079	6·3 163 596	·003 968 254
253	64 009	16 194 277	15·9 059 737	6.3 247 035	·003 952 569
254	64 516	16 387 064	15·9 373 775	6 3 330 256	·003 937 008
255	65 025	16 581 375	15·9 687 194	6·3 413 257	·003 921 569
256	65 536	16 777 216	16·0 000 000	6·3 496 042	·003 906 250
257	66 049	16 974 593	16·0 312 195	6·3 578 611	·003 891 051
258	66 564	17 173 512	16·0 623 784	6·3 660 968	·003 875 969
259	67 081	17 373 979	16·0 934 769	6·3 743 111	·003 861 004
260	67 600	17 576 000	16·1 245 155	6·3 825 043	·003 846 154
261	68 121	17 779 581	16·1 554 944	6·3 906 765	·003 831 418
262	68 644	17 984 728	16·1 864 141	6·3 988 279	·003 816 794
263	69 169	18 191 447	16·2 172 747	6·4 069 585	·003 802 281
264	69 696	18 399 744	16·2 480 768	6·4 150 687	·003 787 879
265	70 225	18 609 625	16·2 788 206	6·4 231 583	·003 773 585
266	70 756	18 821 096	16·3 095 064	6·4 312 276	·003 759 398
267	71 289	19 034 163	16·3 401 346	6·4 392 767	·003 745 318
268	71 824	19 248 832	16·3 707 055	6·4 473 057	·003 731 343
269	72 361	19 465 109	16·4 012 195	6·4 553 148	·003 717 472
270	72 900	19 683 000	16·4 316 767	6·4 633 041	·003 703 704
271	73 441	19 902 511	16·4 620 776	6·4 712 736	·003 690 037
272	73 984	20 123 648	16·4 924 225	6·4 792 236	·003 676 471
273	74 529	20 346 417	16·5 227 116	6·4 871 541	·003 663 004
274	75 076	20 570 824	16·5 529 454	6·4 950 653	·003 649 635
275	75 625	20 796 875	16·5 831 240	6·5 029 572	·003 636 364
276	76 176	21 024 576	16·6 132 477	6·5 108 300	·003 623 188
277	76 729	21 253 933	16·6 433 170	6·5 186 839	·003 610 108
278	77 284	21 484 952	16·6 733 320	6·5 265 189	·003 597 122
279	77 841	21 717 639	16·7 032 931	6·5 343 351	·003 584 229
280	78 400	21 952 000	16·7 332 005	6·5 421 326	·003 571 429
281	78 961	22 188 041	16·7 630 546	6·5 499 116	·003 558 719
282	79 524	22 425 768	16·7 928 556	6·5 576 722	·003 546 099
283	80 089	22 665 187	16·8 226 038	6·5 654 144	·003 533 569
284	80 656	22 906 304	16·8 522 995	6·5 731 385	·003 521 127
285	81 225	23 149 125	16·8 819 430	6·5 808 443	·003 508 772
286	81 796	23 393 656	16·9 115 345	6·5 885 323	·003 496 503
287	82 369	23 639 903	16·9 410 743	6·5 962 023	·003 484 321
288	82 944	23 887 872	16·9 705 627	6·6 038 545	·003 472 222
289	83 521	24 137 569	17·0 000 000	6·6 114 890	·003 460 208
290	84 100	24 389 000	17·0 293 864	6·6 191 060	·003 448 276
291	84 681	24 642 171	17·0 587 221	6·6 267 054	·003 436 426
292	85 264	24 897 088	17·0 880 075	6·6 342 874	·003 424 658
293	85 849	25 153 757	17·1 172 428	6·6 418 522	·003 412 969
294	86 436	25 412 184	17·1 464 282	6·6 493 998	·003 401 361
295	87 025	25 672 375	17·1 755 640	6·6 569 302	·003 389 831
296	87 616	25 934 336	17·2 046 505	6·6 644 437	·003 378 378
297	88 209	26 198 073	17·2 336 879	6·6 719 403	·003 367 003
298	88 804	26 463 592	17·2 626 765	6·6 794 200	·003 355 705
299	89 401	26 730 899	17·2 916 165	6·6 868 831	·003 344 482
300	90 000	27 000 000	17·3 205 081	6·6 943 295	·003 333 333

SQUARES, CUBES, ROOTS, AND RECIPROCALS.

Number.	Square.	Cube.	Square Root.	Cube Root.	Reciprocal.
301	90 601	27 270 901	17·3 493 516	6·7 017 593	0·003 322 259
302	91 204	27 543 608	17·3 781 472	6·7 091 729	·003 311 258
303	91 809	27 818 127	17·4 068 952	6·7 165 700	·003 300 330
304	92 416	28 094 464	17·4 355 958	6·7 239 508	·003 289 474
305	93 025	28 372 625	17·4 642 492	6·7 313 155	·003 278 689
306	93 636	28 652 616	17·4 928 557	6·7 386 641	·003 267 974
307	94 249	28 934 443	17·5 214 155	6·7 459 967	·003 257 329
308	94 864	29 218 112	17·5 499 288	6·7 533 134	·003 246 753
309	95 481	29 503 629	17·5 783 958	6·7 606 143	·003 236 246
310	96 100	29 791 000	17·6 068 169	6·7 678 995	·003 225 806
311	96 721	30 080 231	17·6 351 921	6·7 751 690	·003 215 434
312	97 344	30 371 328	17·6 635 217	6·7 824 229	·003 205 128
313	97 969	30 664 297	17·6 918 060	6·7 896 613	·003 194 888
314	98 596	30 959 144	17·7 200 451	6·7 968 844	·003 184 713
315	99 225	31 255 875	17·7 482 393	6·8 040 921	·003 174 603
316	99 856	31 554 496	17·7 763 888	6·8 112 847	·003 164 557
317	100 489	31 855 013	17·8 044 938	6·8 184 620	·003 154 574
318	101 124	32 157 432	17·8 325 545	6·8 256 242	·003 144 654
319	101 761	32 461 759	17·8 605 711	6·8 327 714	·003 134 796
320	102 400	32 768 000	17·8 885 438	6·8 399 037	·003 125 000
321	103 041	33 076 161	17·9 164 729	6·8 470 213	·003 115 265
322	103 684	33 386 248	17·9 443 584	6·8 541 240	·003 105 590
323	104 329	33 698 267	17·9 722 008	6·8 612 120	·003 095 975
324	104 976	34 012 224	18·0 000 000	6·8 682 855	·003 086 420
325	105 625	34 328 125	18·0 277 564	6·8 753 443	·003 076 923
326	106 276	34 645 976	18·0 554 701	6·8 823 888	·003 067 485
327	106 929	34 965 783	18·0 831 413	6·8 894 188	·003 058 104
328	107 584	35 287 552	18·1 107 703	6.8 964 345	·003 048 780
329	108 241	35 611 289	18·1 383 571	6·9 034 359	·003 039 514
330	108 900	35 937 000	18·1 659 021	6·9 104 232	·003 030 303
331	109 561	36 264 691	18·1 934 054	6·9 173 964	·003 021 148
332	110 224	36 594 368	18·2 208 672	6·9 243 556	·003 012 048
333	110 889	36 926 037	18·2 482 876	6·9 313 008	·003 003 003
334	111 556	37 259 704	18·2 756 669	6·9 382 321	·002 994 012
335	112 225	37 595 375	18·3 030 052	6·9 451 496	·002 985 075
336	112 896	37 933 056	18·3 303 028	6·9 520 533	·002 976 190
337	113 569	38 272 753	18·3 575 598	6·9 589 434	·002 967 359
338	114 244	38 614 472	18·3 847 763	6·9 658 198	·002 958 580
339	114 921	38 958 219	18·4 119 526	6·9 726 826	·002 949 853
340	115 600	39 304 000	18·4 390 889	6·9 795 321	·002 941 176
341	116 281	39 651 821	18·4 661 853	6·9 863 681	·002 932 551
342	116 964	40 001 688	18·4 932 420	6·9 931 906	·002 923 977
343	117 649	40 353 607	18·5 202 592	7·0 000 000	·002 915 452

TABLE XXII.

CONSTANTS.

		Logarithm.	Compl. of Logarithm.
Diam. = 1. Circumference = π =	3·1 415 927	0·4 971 499	9·5 028 501
Diam. = 1. Area of Circle* = $\frac{\pi}{4}$ =	0·7 853 982	9·8 950 899	0·1 049 101
Diam. = 1. Contents of Sphere = $\frac{\pi}{6}$ =	0·5 235 988	9·7 189 986	0·2 810 014
Area = 1. Diam. of Circle = $\sqrt{\frac{4}{\pi}}$ =	1·1 283 792	0·0 524 551	9·9 475 449
Cont. = 1. Diam. of Sphere = $\sqrt[3]{\frac{6}{\pi}}$ =	1·2 407 010	0·0 936 671	9·9 063 329
$\sqrt[3]{\pi}$ =	1·4 645 919	0·1 657 166	9·8 342 834
$\sqrt{\pi}$ =	1·7 724 539	0·2 485 750	9·7 514 250
π^2 =	9·8 696 044	0·9 942 997	9·0 057 003
Hyp. Log. π =	1·1 447 299	0·0 587 030	9·9 412 970
Length of Arc 1″ = Sin 1″ =	0·000 004 848	4·6 855 749	5·3 144 251
Length of Arc 2″ = Sin 2″ =	0·000 009 696	4·9 866 049	5·0 133 951
Length of Arc 3″ = Sin 3″ =	0·000 014 544	5·1 626 961	4·8 373 039
Length of Arc 1′ = Sin 1′ =	0·000 290 888	6·4 637 261	3·5 362 739
Length of Arc 1° =	0·017 453 293	8·2 418 774	1·7 581 226
Sin 1° =	0·017 452 406	8·2 418 553	1·7 581 447
360 Degrees expressed in Seconds =	1 296 000	6·1 126 050	3·8 873 950
Rad. reduced to Seconds =	206 264·8	5·3 144 251	4·6 855 749
Rad. reduced to Minutes =	3 437·746 77	3·5 362 739	6·4 637 261
Rad. reduced to Degrees =	57·295 78	1·7 581 226	8·2 418 774
Number whose Hyp. Log. is Unity = ϵ =	2·718 281 829	0·4 342 945	9·5 657 055
Modulus of Common Logarithms =	·434 294 482	9·6 377 843	0·3 622 156
French Toise = in Mètres	1·949 040	0·2 898 200	9·7 101 800
„ do. = „ English Yards	2·131 530 8	0·3 286 916	9·6 713 084
„ do. = „ „ Feet	6·394 592 5	0·8 058 129	9·1 841 871
„ Mètre = „ „ Yards	1·093 633 1	0·0 388 716	9·9 611 284
„ do. = „ „ Feet	3·280 899 2	0·5 159 929	9·4 840 071
„ do. = „ „ Inches	39·370 79	1·5 951 741	8·4 048 259
„ Foot = „ „ Feet	1·065 765 4	0·0 276 616	9·9 723 384
„ Are = „ „ Acres	0·024 711 43	8·3 928 979	1·6 071 021
„ Gramme = „ Impl. lbs. Troy	0·002 680 98	7·4 282 928	2·5 717 072
„ do. = „ Impl. lbs. Avoird.	0·002 206 06	7·3 436 173	2·6 563 827
„ Kilogramme = „ English Cwts.	0·019 696 9	8·2 943 993	1·7 056 007
„ Litre = „ Imperial Gallons	0·220 096 87	9·3 426 139	0·6 573 861
Centl. Degree = in Sexl. Degrees	0·9	9·9 542 425	0·0 457 575
Centl. Minute = in Sexl. Minutes	0·54	9·7 323 938	0·2 676 062
Centl. Second = in Sexl. Seconds	0·324	9·5 105 450	0·4 894 550

* See Note (No. 4) on approximate Geometrical Quadrature of Circle.

CONSTANTS—*continued.*

			LOGARITHM.	COMPL. of LOGARITHM.
24 Hours expressed in Seconds . .	=	86 400	4·9 365 137	5·0 634 863
Di^{l}. ac. of Stars = 3′ 55″·9093 . . . in mean Solar Seconds	=	235·90 93	2·3 727 451	7·6 272 549
Sid^{l}. Day = 23^{h} 56′ 4″·09 . . in mean Solar Days	=	·99 726 967	9·9 988 126	0·0 011 874
Solar mean Day = 24^{h} 3′ 56″·5554 . in Sidereal Days	=	1·00 273 791	0·0 011 874	9·9 988 126
Sid. revolution of the Earth . . . . in mean Solar Days	=	365·25 636	2·5 625 978	7·4 374 022
Trop^{l}. revolution of the Earth . . . in mean Solar Days	=	365·24 224	2·5 625 810	7·4 374 190
Mean circumference of the Earth . . in English Miles	=	24 856	4·3 954 312	5·6 045 688
Mean Diameter of the Earth . . . in English Miles	=	7 921	3·8 987 800	6·1 012 200
Earth's Equatorial Radius . . . . in English Feet	=	20 921 665	7·3 205 962	2·6 794 038
Earth's Polar Radius . . . . in English Feet	=	20 852 394	7·3 191 559	2·6 808 441
Equatorial Degree of Latitude . . . in English Feet	=	362 732	5·5 595 859	4·4 404 141
Degree in Latitude 45° . . . . . . in English Feet	=	364 543·5	5·5 617 494	4·4 382 506
Degree in Latitude 52° 50′ . . . . . in English Feet	=	365 000	5·5 622 929	4·4 377 071
Geographical Mile in Latitude 50½° . in Statute Miles	=	1·152	0·0 614 525	9·9 385 475
Sea League in Latitude 50½° . . . in Statute Miles	=	3·456	0·5 385 737	9·4 614 263
Length of Pendulum which vibrates Seconds . . . . at the Equator in English Inches	=	39·013 26	1·5 912 122	8·4 087 878
Do. at Latitude 45° do.	=	39·118 20	1·5 923 788	8·4 076 212
Do. at Greenwich do.	=	39·139 3	1·5 926 130	8·4 073 870
Do. at Edinburgh do.	=	39·155 5	1·5 927 928	8·4 072 072
Force of Gravity at Greenwich . . . in Feet per Second	=	32·190 8	1·5 077 318	8·4 922 682
Do. do. in Inches per Second	=	386·289 4	2·5 869 128	7·4 130 872
Do. at Edinburgh in Feet per Second	=	32·204 1	1·5 079 112	8·4 920 888
Bar. 30 In. F. Ther. 62°				
Cubic Inch of Distilled Water in Grains	=	252·458	2·4 021 891	7·5 978 109
Cubic Foot of do. in Ounces Troy .	=	908·848 800	2·9 584 916	7·0 415 084
Do. do. in Pounds Troy .	=	75·737 400	1·8 793 104	8·1 206 896
Do. do. in Oz. Avoirdupois	=	997·136 969 1	2·9 987 548	7·0 012 452
Do. do. in ℔s. Avoirdupois	=	62·321 060 6	1·7 946 348	8·2 053 652
Bar. 30 In. Ther. 55°				
English Cubic In. of Water in English Grains	=	253·175	2·4 034 208	7·5 965 792
Do. Ft. of Water in do.	=	437489·4	5·6 409 675	4·3 590 325
Do. Ft. of Water in Paris Grains	=	533247·	5·7 269 284	4·2 730 716
Paris Cubic Foot of Water in do.	=	645511·	5·8 099 037	4·1 900 963
Do. Foot of Water in English Grains	=	529922·	5·7 242 119	4·2 757 881

☞ As a Cubic Foot of Water weighs *very nearly* 1000 Ounces Avoirdupois, the Specific Gravity of Bodies expresses the ounces in a Cubic Foot of them, the Density of Water being 1000.

ADDITIONAL TABLES.

NATURAL OR HYPERBOLIC LOGARITHMS.

TRIGONOMETRY.

ASTRONOMY,

&c. &c. &c.

NATURAL OR HYPERBOLIC LOGARITHMS.

HYPERBOLIC LOGARITHMS are the same as those discovered by NAPIER,* or NEPER—and are sometimes called NEPERIAN as well as NATURAL Logarithms; having 1 for their Modulus; 2·302585092994, &c. for the LOG. of 10; and 1· for the LOG. of 2·718281828459, &c.

KEPLER considers Logarithms to be measures of ratios or proportions.

I have proposed (see page 108) a New Method of ascertaining the COMMON or BRIGGS'S LOGARITHM of any number less than 108000, with the aid of a TABLE of LOGS. from 1 to 1200. A similar method may be applied with equal success to HYPERBOLIC or NATURAL LOGARITHMS.

Mode of obtaining the HYPERBOLIC or NATURAL LOGARITHM of any number (within certain limits) true to the fifth place.

RULE I. Divide the number, the LOG. of which is wanted, by 10, until within the Table of LOGS. which extends from 1 to 1200. The number of divisions made, or places the decimal point is removed to the left, will give the first portion of the answer, from the annexed Table of the Powers of the Log. of 10.

II. Find the LOG. of the whole number in the quotient, left after the division made.

III. Take the difference between the LOG. of the number last found and the LOG. of a number one greater. Multiply the difference into the decimal portion of the quotient and reserve the first seven figures.

IV. These three amounts being added together will produce the LOG. of the given number.

E. G. Required the LOG. of 625679.

This number being divided by 10, three times, becomes 625·679.

By the annexed TABLE, the division by 10, three times, gives .	6·9077553
The LOG. of 625 by the TABLE of LOGS. is	6·4377516
And the part to be added for ·679 will be (as shown below) . .	·0010856
	13·3465925

which is the LOG. of 625679, true to the 6th place.

By the TABLE the LOG. of 626 is 6·4393504
and the LOG. of 625 is 6·4377516

The difference of these LOGS. is ·0015988

Multiply this difference, viz. ·0015988 by ·679, the amount will be ·0010855852.

The amount of the first 7 places is the part to be added to complete the Logarithm.

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* First published in 1614 by JOHN NAPIER, Baron of MERCHISTON in Scotland, in his work entitled '*Mirifici Logarithmorum Canonis Descriptio*.'

NATURAL OR HYPERBOLIC LOGARITHMS.

Log. of **10**.

Power.	Logarithm.	
1	2·302 5851	$=10$
2	4·605 1702	$=10^{2}=100$
3	6·907 7553	$=10^{3}=1,000$
4	9·210 3404	$=10^{4}=10,000$
5	11·512 9255	$=10^{5}=100,000$
6	13·815 5106	$=10^{6}=1,000,000$
7	16·118 0957	$=10^{7}=10,000,000$
8	18·420 6807	$=10^{8}=100,000,000$
9	20·723 2658	$=10^{9}=1,000,000,000$
10	23·025 8509	$=10^{10}=10,000,000,000$, or Ten Thousand Millions.

The accuracy of the foregoing method may be thus proved.

Let 13·346592 be the given Log. to find the corresponding number.

The given Log. being . . . 13·346592
By the Table $10^{3}=1000$ . . . is 6·907755

1st difference is 6·438837
By the Table the Log. of 625· is 6·437751 being the nearest Log. to the difference in the Table.

2nd difference is ·001086
And (see below) . . ·679 is the part to be added for } ·001086

625·679

1st Factor. 2nd Factor.
1000 × 625·679 = 625679, the NUMBER sought.

By the Table the Log. of 626 is 6·439350
and the Log. of 625 is 6·437751

·001599

By dividing ·001086 by ·001599, we obtain ·679, which will complete the second factor.

The following **Tables** will be found useful in transposing the Common Log. into the Natural Log. or the reverse.—See page 108.

1	023 025 851
2	046 051 702
3	069 077 553
4	092 103 404
5	115 129 255
6	138 155 106
7	161 180 957
8	184 206 807
9	207 232 658

1	0434 2945
2	0868 5890
3	1302 8834
4	1737 1779
5	2171 4724
6	2605 7669
7	3040 0614
8	3474 3559
9	3908 6503

ADDITIONAL TABLES.—A.

NATURAL OR HYPERBOLIC LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
1	0·000 0000	51	3·931 8256	101	4·615 1205	151	5·017 2798
2	0·693 1472	52	3·951 2437	102	4·624 9728	152	5·023 8805
3	1·098 6123	53	3·970 2919	103	4·634 7290	153	5·030 4379
4	1·386 2944	54	3·988 9840	104	4·644 3909	154	5·036 9526
5	1·609 4379	55	4·007 3332	105	4·653 9604	155	5·043 4251
6	1·791 7595	56	4·025 3517	106	4·663 4391	156	5·049 8560
7	1·945 9101	57	4·043 0513	107	4·672 8288	157	5·056 2458
8	2·079 4415	58	4·060 4430	108	4·682 1312	158	5·062 5950
9	2·197 2246	59	4·077 5374	109	4·691 3479	159	5·068 9042
10	2·302 5851	**60**	4·094 3446	**110**	4·700 4804	**160**	5·075 1738
11	2·397 8953	61	4·110 8739	111	4·709 5302	161	5·081 4044
12	2·484 9066	62	4·127 1344	112	4·718 4989	162	5·087 5963
13	2·564 9494	63	4·143 1347	113	4·727 3878	163	5·093 7502
14	2·639 0573	64	4·158 8831	114	4·736 1984	164	5·099 8664
15	2·708 0502	65	4·174 3873	115	4·744 9321	165	5·105 9455
16	2·772 5887	66	4·189 6547	116	4·753 5902	166	5·111 9878
17	2·833 2133	67	4·204 6926	117	4·762 1739	167	5·117 9938
18	2·890 3718	68	4·219 5077	118	4·770 6846	168	5·123 9640
19	2·944 4390	69	4·234 1065	119	4·779 1235	169	5·129 8987
20	2·995 7323	**70**	4·248 4952	**120**	4·787 4917	**170**	5·135 7984
21	3·044 5224	71	4·262 6799	121	4·795 7905	171	5·141 6636
22	3·091 0425	72	4·276 6661	122	4·804 0210	172	5·147 4945
23	3·135 4942	73	4·290 4594	123	4·812 1844	173	5·153 2916
24	3·178 0538	74	4·304 0651	124	4·820 2816	174	5·159 0553
25	3·218 8758	75	4·317 4881	125	4·828 3137	175	5·164 7860
26	3·258 0965	76	4·330 7333	126	4·836 2819	176	5·170 4840
27	3·295 8369	77	4·343 8054	127	4·844 1871	177	5·176 1497
28	3·332 2045	78	4·356 7088	128	4·852 0303	178	5·181 7836
29	3·367 2958	79	4·369 4479	129	4·859 8124	179	5·187 3858
30	3·401 1974	**80**	4·382 0266	**130**	4·867 5345	**180**	5·192 9569
31	3·433 9872	81	4·394 4492	131	4·875 1973	181	5·198 4970
32	3·465 7359	82	4·406 7192	132	4·882 8019	182	5·204 0067
33	3·496 5076	83	4·418 8406	133	4·890 3491	183	5·209 4862
34	3·526 3605	84	4·430 8168	134	4·897 8398	184	5·214 9358
35	3·555 3481	85	4·442 6513	135	4·905 2748	185	5·220 3558
36	3·583 5189	86	4·454 3473	136	4·912 6549	186	5·225 7467
37	3·610 9179	87	4·465 9081	137	4·919 9809	187	5·231 1086
38	3·637 5862	88	4·477 3368	138	4·927 2537	188	5·236 4420
39	3·663 5616	89	4·488 6364	139	4·934 4739	189	5·241 7470
40	3·688 8795	**90**	4·499 8097	**140**	4·941 6424	**190**	5·247 0241
41	3·713 5721	91	4·510 8595	141	4·948 7599	191	5·252 2734
42	3·737 6696	92	4·521 7886	142	4·955 8271	192	5·257 4954
43	3·761 2001	93	4·532 5995	143	4·962 8446	193	5·262 6902
44	3·784 1896	94	4·543 2948	144	4·969 8133	194	5·267 8582
45	3·806 6625	95	4·553 8769	145	4·976 7337	195	5·272 9996
46	3·828 6414	96	4·564 3482	146	4·983 6066	196	5·278 1147
47	3·850 1476	97	4·574 7110	147	4·990 4326	197	5·283 2037
48	3·871 2010	98	4·584 9675	148	4·997 2123	198	5·288 2670
49	3·891 8203	99	4·595 1199	149	5·003 9463	199	5·293 3048
50	3·912 0230	**100**	4·605 1702	**150**	5·010 6353	**200**	5·298 3174

NATURAL OR HYPERBOLIC LOGARITHMS.

NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.
201	5·303 3049	251	5·525 4529	301	5·707 1103	351	5·860 7862
202	5·308 2677	252	5·529 4291	302	5·710 4270	352	5·863 6312
203	5·313 2060	253	5·533 3895	303	5·713 7328	353	5·866 4681
204	5·318 1200	254	5·537 3343	304	5·717 0277	354	5·869 2969
205	5·323 0100	255	5·541 2635	305	5·720 3118	355	5·872 1178
206	5·327 8762	256	5·545 1774	306	5·723 5851	356	5·874 9307
207	5·332 7188	257	5·549 0761	307	5·726 8477	357	5·877 7358
208	5·337 5381	258	5·552 9596	308	5·730 0998	358	5·880 5330
209	5·342 3343	259	5·556 8281	309	5·733 3413	359	5·883 3224
210	5·347 1075	**260**	5·560 6816	**310**	5·736 5723	**360**	5·886 1040
211	5·351 8581	261	5·564 5204	311	5·739 7929	361	5·888 8780
212	5·356 5863	262	5·568 3445	312	5·743 0032	362	5·891 6442
213	5·361 2922	263	5·572 1540	313	5·746 2032	363	5·894 4028
214	5·365 9760	264	5·575 9491	314	5·749 3930	364	5·897 1539
215	5·370 6380	265	5·579 7298	315	5·752 5726	365	5·899 8974
216	5·375 2784	266	5·583 4963	316	5·755 7422	366	5·902 6333
217	5·379 8974	267	5·587 2487	317	5·758 9018	367	5·905 3618
218	5·384 4951	268	5·590 9870	318	5·762 0514	368	5·908 0829
219	5·389 0717	269	5·594 7114	319	5·765 1911	369	5·910 7966
220	5·393 6275	**270**	5·598 4220	**320**	5·768 3210	**370**	5·913 5030
221	5·398 1627	271	5·602 1188	321	5·771 4411	371	5·916 2021
222	5·402 6774	272	5·605 8021	322	5·774 5515	372	5·918 8939
223	5·407 1718	273	5·609 4718	323	5·777 6523	373	5·921 5784
224	5·411 6461	274	5·613 1281	324	5·780 7435	374	5·924 2558
225	5·416 1004	275	5·616 7711	325	5·783 8252	375	5·926 9260
226	5·420 5350	276	5·620 4009	326	5·786 8974	376	5·929 5891
227	5·424 9500	277	5·624 0175	327	5·789 9602	377	5·932 2452
228	5·429 3456	278	5·627 6211	328	5·793 0136	378	5·934 8942
229	5·433 7220	279	5·631 2118	329	5·796 0578	379	5·937 5362
230	5·438 0793	**280**	5·634 7896	**330**	5·799 0927	**380**	5·940 1713
231	5·442 4177	281	5·638 3547	331	5·802 1184	381	5·942 7994
232	5·446 7374	282	5·641 9071	332	5·805 1350	382	5·945 4206
233	5·451 0385	283	5·645 4469	333	5·808 1425	383	5·948 0350
234	5·455 3211	284	5·648 9742	334	5·811 1410	384	5·950 6426
235	5 459 5855	285	5·652 4892	335	5·814 1305	385	5·953 2433
236	5·463 8318	286	5·655 9918	336	5·817 1112	386	5·955 8374
237	5·468 0601	287	5·659 4822	337	5·820 0829	387	5·958 4247
238	5·472 2707	288	5·662 9605	338	5·823 0459	388	5·961 0053
239	5·476 4636	289	5·666 4267	339	5·826 0001	389	5·963 5793
240	5·480 6389	**290**	5·669 8809	**340**	5·828 9456	**390**	5·966 1467
241	5·484 7969	291	5·673 3233	341	5·831 8825	391	5·968 7076
242	5·488 9377	292	5·676 7538	342	5·834 8107	392	5·971 2618
243	5·493 0614	293	5·680 1726	343	5·837 7304	393	5·973 8096
244	5·497 1682	294	5·683 5798	344	5·840 6417	394	5·976 3509
245	5·501 2582	295	5·686 9754	345	5·843 5444	395	5·978 8858
246	5·505 3315	296	5·690 3595	346	5·846 4388	396	5·981 4142
247	5·509 3883	297	5·693 7321	347	5·849 3248	397	5·983 9363
248	5·513 4287	298	5·697 0935	348	5·852 2025	398	5·986 4520
249	5·517 4529	299	5·700 4436	349	5·855 0719	399	5·988 9614
250	5·521 4609	**300**	5·703 7825	**350**	5·857 9332	**400**	5·991 4645

NATURAL OR HYPERBOLIC LOGARITHMS.

NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.
401	5·993 9614	451	6·111 4673	501	6·216 6061	551	6·311 7348
402	5·996 4521	452	6·113 6822	502	6·218 6001	552	6·313 5480
403	5·998 9366	453	6·115 8921	503	6·220 5902	553	6·315 3580
404	6·001 4149	454	6·118 0972	504	6·222 5763	554	6·317 1647
405	6·003 8871	455	6·120 2974	505	6·224 5584	555	6·318 9681
406	6·006 3532	456	6·122 4928	506	6·226 5367	556	6·320 7683
407	6·008 8132	457	6·124 6834	507	6·228 5110	557	6·322 5652
408	6·011 2672	458	6·126 8692	508	6·230 4814	558	6·324 3590
409	6·013 7152	459	6·129 0502	509	6·232 4480	559	6·326 1495
410	6·016 1572	**460**	6·131 2265	**510**	6·234 4107	**560**	6·327 9368
411	6·018 5932	461	6·133 3980	511	6·236 3696	561	6·329 7209
412	6·021 0233	462	6·135 5649	512	6·238 3246	562	6·331 5018
413	6·023 4476	463	6·137 7271	513	6·240 2758	563	6·333 2796
414	6·025 8660	464	6·139 8846	514	6·242 2233	564	6·335 0543
415	6·028 2785	465	6·142 0374	515	6·244 1669	565	6·336 8257
416	6·030 6853	466	6·144 1856	516	6·246 1068	566	6·338 5941
417	6·033 0862	467	6·146 3293	517	6·248 0429	567	6·340 3593
418	6·035 4814	468	6·148 4683	518	6·249 9752	568	6·342 1214
419	6·037 8709	469	6·150 6028	519	6·251 9039	569	6·343 8804
420	6·040 2547	**470**	6·152 7327	**520**	6·253 8288	**570**	6·345 6364
421	6·042 6328	471	6·154 8581	521	6·255 7500	571	6·347 3892
422	6·045 0053	472	6·156 9790	522	6·257 6676	572	6·349 1390
423	6·047 3722	473	6·159 0954	523	6·259 5815	573	6·350 8857
424	6·049 7335	474	6·161 2073	524	6·261 4917	574	6·352 6294
425	6·052 0892	475	6·163 3148	525	6·263 3983	575	6·354 3700
426	6·054 4393	476	6·165 4179	526	6·265 3012	576	6·356 1077
427	6·056 7840	477	6·167 5165	527	6·267 2005	577	6·357 8423
428	6·059 1232	478	6·169 6107	528	6·269 0963	578	6·359 5739
429	6·061 4569	479	6·171 7006	529	6·270 9884	579	6·361 3025
430	6·063 7852	**480**	6·173 7861	**530**	6·272 8770	**580**	6·363 0281
431	6·066 1081	481	6·175 8673	531	6·274 7620	581	6·364 7508
432	6·068 4256	482	6·177 9441	532	6·276 6435	582	6·366 4704
433	6·070 7377	483	6·180 0167	533	6·278 5214	583	6·368 1872
434	6·073 0445	484	6·182 0849	534	6·280 3958	584	6·369 9010
435	6·075 3460	485	6·184 1489	535	6·282 2667	585	6·371 6118
436	6·077 6422	486	6·186 2086	536	6·284 1342	586	6·373 3198
437	6·079 9332	487	6·188 2641	537	6·285 9981	587	6·375 0248
438	6·082 2189	488	6·190 3154	538	6·287 8586	588	6·376 7269
439	6·084 4994	489	6·192 3625	539	6·289 7156	589	6·378 4262
440	6·086 7747	**490**	6·194 4054	**540**	6·291 5691	**590**	6·380 1225
441	6·089 0449	491	6·196 4441	541	6·293 4193	591	6·381 8160
442	6·091 3099	492	6·198 4787	542	6·295 2660	592	6·383 5066
443	6·093 5698	493	6·200 5092	543	6·297 1093	593	6·385 1944
444	6·095 8246	494	6·202 5355	544	6·298 9492	594	6·386 8793
445	6·098 0743	495	6·204 5578	545	6·300 7858	595	6·388 5614
446	6·100 3190	496	6·206 5759	546	6·302 6190	596	6·390 2407
447	6·102 5586	497	6·208 5900	547	6·304 4488	597	6·391 9171
448	6·104 7932	498	6·210 6001	548	6·306 2753	598	6·393 5908
449	6·107 0229	499	6·212 6061	549	6·308 0984	599	6·395 2616
450	6·109 2476	**500**	6·214 6081	**550**	6·309 9183	**600**	6·396 9297

NATURAL OR HYPERBOLIC LOGARITHMS.

NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.
601	6·398 5949	651	6·478 5096	701	6·552 5079	751	6·621 4057
602	6·400 2574	652	6·480 0446	702	6·553 9334	752	6·622 7363
603	6·401 9172	653	6·481 5771	703	6·555 3569	753	6·624 0652
604	6·403 5742	654	6·483 1074	704	6·556 7784	754	6·625 3924
605	6·405 2285	655	6·484 6352	705	6·558 1978	755	6·626 7177
606	6·406 8800	656	6·486 1608	706	6·559 6152	756	6·628 0414
607	6·408 5288	657	6·487 6840	707	6·561 0307	757	6·629 3633
608	6·410 1749	658	6·489 2049	708	6·562 4441	758	6·630 6834
609	6·411 8183	659	6·490 7235	709	6·563 8555	759	6·632 0018
610	6·413 4590	**660**	6·492 2398	**710**	6·565 2650	**760**	6·633 3184
611	6·415 0970	661	6·493 7538	711	6·566 6724	761	6·634 6334
612	6·416 7323	662	6·495 2656	712	6·568 0779	762	6·635 9466
613	6·418 3649	663	6·496 7750	713	6·569 4814	763	6·637 2580
614	6·419 9949	664	6·498 2821	714	6·570 8830	764	6·638 5678
615	6·421 6223	665	6·499 7870	715	6·572 2825	765	6·639 8758
616	6·423 2470	666	6·501 2897	716	6·573 6802	766	6 641 1822
617	6·424 8690	667	6·502 7900	717	6·575 0758	767	6·642 4868
618	6·426 4885	668	6·504 2882	718	6·576 4696	768	6·643 7897
619	6·428 1053	669	6·505 7841	719	6·577 8614	769	6·645 0910
620	6·429 7195	**670**	6·507 2777	**720**	6·579 2512	**770**	6·646 3905
621	6·431 3311	671	6·508 7691	721	6·580 6391	771	6·647 6884
622	6·432 9401	672	6·510 2583	722	6·582 0251	772	6·648 9846
623	6·434 5465	673	6·511 7453	723	6·583 4092	773	6·650 2790
624	6·436 1504	674	6·513 2301	724	6·584 7914	774	6·651 5719
625	6·437 7516	675	6·514 7127	725	6·586 1717	775	6·652 8630
626	6·439 3504	676	6·516 1931	726	6·587 5500	776	6·654 1525
627	6·440 9465	677	6·517 6713	727	6·588 9265	777	6·655 4404
628	6·442 5402	678	6·519 1473	728	6·590 3010	778	6·656 7265
629	6·444 1313	679	6·520 6211	729	6·591 6737	779	6·658 0110
630	6·445 7198	**680**	6·522 0928	**730**	6·593 0445	**780**	6·659 2939
631	6·447 3059	681	6·523 5623	731	6·594 4135	781	6·660 5751
632	6·448 8894	682	6·525 0297	732	6·595 7805	782	6·661 8547
633	6·450 4704	683	6·526 4949	733	6·597 1457	783	6·663 1327
634	6·452 0490	684	6·527 9579	734	6·598 5090	784	6·664 4090
635	6·453 6250	685	6·529 4188	735	6·599 8705	785	6·665 6837
636	6·455 1986	686	6·530 8776	736	6·601 2301	786	6·666 9568
637	6·456 7697	687	6·532 3343	737	6·602 5879	787	6·668 2282
638	6·458 3383	688	6·533 7888	738	6·603 9438	788	6·669 4981
639	6·459 9045	689	6·535 2413	739	6·605 2979	789	6·670 7663
640	6·461 4682	**690**	6·536 6916	**740**	6·606 6502	**790**	6·672 0329
641	6·463 0295	691	6·538 1398	741	6·608 0006	791	6·673 2980
642	6·464 5883	692	6·539 5860	742	6·609 3492	792	6·674 5614
643	6·466 1447	693	6·541 0300	743	6·610 6960	793	6·675 8232
644	6·467 6987	694	6·542 4720	744	6·612 0410	794	6·677 0835
645	6·469 2503	695	6·543 9118	745	6·613 3842	795	6·678 3421
646	6·470 7995	696	6·545 3497	746	6·614 7256	796	6·679 5992
647	6·472 3463	697	6·546 7854	747	6·616 0652	797	6·680 8547
648	6·473 8907	698	6·548 2191	748	6 617 4030	798	6·682 1086
649	6·475 4327	699	6·549 6507	749	6·618 7390	799	6·683 3609
650	6·476 9724	**700**	6·551 0803	**750**	6·620 0732	**800**	6·684 6117

NATURAL OR HYPERBOLIC LOGARITHMS.

NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.	NUMBER.	LOG.
801	6·685 8609	851	6·746 4121	901	6·803 5053	951	6·857 5141
802	6·687 1086	852	6·747 5865	902	6·804 6145	952	6·858 5650
803	6·688 3547	853	6·748 7595	903	6·805 7226	953	6·859 6149
804	6·689 5993	854	6·749 9312	904	6·806 8294	954	6·860 6637
805	6·690 8423	855	6·751 1015	905	6·807 9349	955	6·861 7113
806	6·692 0837	856	6·752 2704	906	6·809 0393	956	6·862 7579
807	6·693 3237	857	6·753 4379	907	6·810 1425	957	6·863 8034
808	6·694 5621	858	6·754 6041	908	6·811 2444	958	6·864 8478
809	6·695 7989	859	6·755 7689	909	6·812 3451	959	6·865 8911
810	6·697 0342	**860**	6·756 9324	**910**	6·813 4446	**960**	6·866 9333
811	6·698 2681	861	6·758 0945	911	6·814 5429	961	6·867 9744
812	6·699 5003	862	6·759 2553	912	6·815 6400	962	6·869 0145
813	6·700 7311	863	6·760 4147	913	6·816 7359	963	6·870 0534
814	6·701 9604	864	6·761 5728	914	6·817 8306	964	6·871 0913
815	6·703 1881	865	6·762 7295	915	6·818 9241	965	6·872 1281
816	6·704 4144	866	6·763 8849	916	6·820 0164	966	6·873 1638
817	6 705 6391	867	6·765 0390	917	6·821 1075	967	6·874 1985
818	6·706 8623	868	6·766 1917	918	6·822 1974	968	6·875 2321
819	6·708 0841	869	6·767 3431	919	6·823 2861	969	6·876 2646
820	6·709 3043	**870**	6·768 4932	**920**	6·824 3737	**970**	6·877 2961
821	6·710 5231	871	6·769 6420	921	6·825 4600	971	6·878 3265
822	6·711 7404	872	6·770 7894	922	6·826 5452	972	6·879 3558
823	6·712 9562	873	6·771 9356	923	6·827 6292	973	6·880 3841
824	6·714 1705	874	6·773 0804	924	6·828 7121	974	6·881 4113
825	6·715 3834	875	6·774 2289	925	6·829 7937	975	6·882 4375
826	6·716 5948	876	6·775 3661	926	6·830 8742	976	6·883 4626
827	6·717 8047	877	6·776 5070	927	6·831 9536	977	6·884 4867
828	6·719 0132	878	6·777 6466	928	6·833 0317	978	6·885 5097
829	6·720 2202	879	6·778 7849	929	6·834 1087	979	6·886 5316
830	6·721 4257	**880**	6·779 9219	**930**	6·835 1846	**980**	6·887 5526
831	6·722 6298	881	6·781 0576	931	6·836 2593	981	6·888 5725
832	6·723 8324	882	6·782 1921	932	6·837 3328	982	6·889 5913
833	6·725 0336	883	6·783 3252	933	6·838 4052	983	6·890 6091
834	6·726 2334	884	6·784 4571	934	6·839 4764	984	6·891 6259
835	6·727 4317	885	6·785 5876	935	6·840 5465	985	6·892 6416
836	6·728 6286	886	6·786 7170	936	6·841 6155	986	6·893 6564
837	6·729 8241	887	6·787 8450	937	6·842 6833	987	6·894 6700
838	6·731 0181	888	6·788 9717	938	6·843 7499	988	6·895 6827
839	6·732 2107	889	6·790 0972	939	6·844 8155	989	6·896 6943
840	6·733 4019	**890**	6·791 2215	**940**	6·845 8799	**990**	6·897 7049
841	6·734 5917	891	6·792 3444	941	6·846 9431	991	6·898 7145
842	6·735 7800	892	6·793 4661	942	6·848 0053	992	6·899 7231
843	6·736 9670	893	6·794 5866	943	6·849 0663	993	6·900 7307
844	6·738 1525	894	6·795 7058	944	6·850 1262	994	6·901 7372
845	6·739 3366	895	6·796 8237	945	6·851 1849	995	6·902 7427
846	6·740 5194	896	6·797 9404	946	6·852 2426	996	6·903 7473
847	6·741 7007	897	6·799 0559	947	6·853 2991	997	6·904 7508
848	6·742 8806	898	6·800 1701	948	6·854 3545	998	6·905 7533
849	6·744 0592	899	6·801 2830	949	6·855 4088	999	6·906 7548
850	6·745 2363	**900**	6·802 3948	**950**	6·856 4620	**1000**	6·907 7553

NATURAL OR HYPERBOLIC LOGARITHMS.

Number.	Log.	Number.	Log.	Number.	Log.	Number.	Log.
1001	6·908 7548	1051	6·957 4974	1101	7·003 9741	1151	7·048 3864
1002	6·909 7533	1052	6·958 4484	1102	7·004 8820	1152	7·049 2548
1003	6·910 7508	1053	6·959 3985	1103	7·005 7890	1153	7·050 1225
1004	6·911 7473	1054	6·960 3477	1104	7·006 6952	1154	7·050 9894
1005	6·912 7428	1055	6·961 2960	1105	7·007 6006	1155	7·051 8556
1006	6·913 7374	1056	6·962 2435	1106	7·008 5052	1156	7·052 7210
1007	6·914 7309	1057	6·963 1900	1107	7·009 4089	1157	7·053 5857
1008	6·915 7234	1058	6·964 1356	1108	7·010 3119	1158	7·054 4497
1009	6·916 7150	1059	6·965 0803	1109	7·011 2140	1159	7·055 3128
1010	6·917 7056	**1060**	6·966 0242	**1110**	7·012 1153	**1160**	7·056 1753
1011	6·918 6952	1061	6·966 9671	1111	7·013 0158	1161	7·057 0370
1012	6·919 6838	1062	6·967 9092	1112	7·013 9155	1162	7·057 8979
1013	6·920 6715	1063	6·968 8504	1113	7·014 8144	1163	7·058 7582
1014	6·921 6582	1064	6·969 7907	1114	7·015 7124	1164	7·059 6176
1015	6·922 6439	1065	6·970 7301	1115	7·016 6097	1165	7·060 4764
1016	6·923 6286	1066	6·971 6686	1116	7·017 5061	1166	7·061 3344
1017	6·924 6124	1067	6·972 6063	1117	7·018 4018	1167	7·062 1916
1018	6·925 5952	1068	6·973 5430	1118	7·019 2967	1168	7·063 0482
1019	6·926 5770	1069	6·974 4789	1119	7·020 1907	1169	7·063 9040
1020	6·927 5579	**1070**	6 975 4139	**1120**	7·021 0840	**1170**	7·064 7590
1021	6·928 5378	1071	6·976 3481	1121	7·021 9764	1171	7·065 6134
1022	6·929 5168	1072	6·977 2813	1122	7·022 8681	1172	7·066 4670
1023	6·930 4948	1073	6·978 2137	1123	7·023 7590	1173	7·067 3198
1024	6·931 4718	1074	6·979 1453	1124	7·024 6490	1174	7·068 1720
1025	6·932 4479	1075	6·980 0759	1125	7·025 5383	1175	7·069 0234
1026	6·933 4230	1076	6·981 0057	1126	7·026 4268	1176	7·069 8741
1027	6·934 3972	1077	6·981 9347	1127	7·027 3145	1177	7·070 7241
1028	6·935 3704	1078	6·982 8628	1128	7·028 2014	1178	7·071 5734
1029	6·936 3427	1079	6·983 7900	1129	7·029 0876	1179	7·072 4219
1030	6·937 3141	**1080**	6·984 7163	**1130**	7·029 9729	**1180**	7·073 2697
1031	6·938 2845	1081	6·985 6418	1131	7·030 8575	1181	7·074 1168
1032	6·939 2539	1082	6·986 5665	1132	7·031 7413	1182	7·074 9632
1033	6·940 2225	1083	6·987 4902	1133	7·032 6243	1183	7·075 8089
1034	6·941 1901	1084	6·988 4132	1134	7·033 5065	1184	7·076 6538
1035	6·942 1567	1085	6·989 3353	1135	7·034 3879	1185	7·077 4981
1036	6·943 1224	1086	6·990 2565	1136	7·035 2686	1186	7·078 3416
1037	6·944 0872	1087	6·991 1769	1137	7·036 1485	1187	7·079 1844
1038	6·945 0511	1088	6·992 0964	1138	7·037 0276	1188	7·080 0265
1039	6·946 0140	1089	6·993 0151	1139	7·037 9060	1189	7·080 8679
1040	6·946 9760	**1090**	6·993 9330	**1140**	7·038 7835	**1190**	7·081 7086
1041	6·947 9371	1091	6·994 8500	1141	7·039 6603	1191	7·082 5486
1042	6·948 8972	1092	6·995 7662	1142	7·040 5364	1192	7·083 3878
1043	6·949 8565	1093	6·996 6815	1143	7·041 4117	1193	7 084 2264
1044	6·950 8148	1094	6·997 5960	1144	7·042 2862	1194	7·085 0643
1045	6·951 7722	1095	6·998 5096	1145	7·043 1599	1195	7·085 9015
1046	6·952 7286	1096	6·999 4225	1146	7·044 0329	1196	7·086 7379
1047	6·953 6842	1097	7·000 3345	1147	7·044 9051	1197	7·087 5737
1048	6·954 6389	1098	7·001 2456	1148	7·045 7766	1198	7·088 4088
1049	6·955 5926	1099	7·002 1560	1149	7·046 6473	1199	7·089 2432
1050	6·956·5454	**1100**	7·003 0655	**1150**	7·047 5172	**1200**	7·090 0768

TRIGONOMETRY.

Arc.	Sine.		Co-sine.		Tangent.		Co-tangent.		Arc.
	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	
0°	·0000 000	Infinite negative.	1·0000 000	10·0000 000	·0000 000	Infinite negative.	Infinite.	Infinite.	90°
30′	·0087 265	7·9408 419	·9999 619	9·9999 835	·0087 269	7·9408 584	114·5886 5	12·0591 416	89 30′
1	·0174 524	8·2418 553	·9998 477	9·9999 338	·0174 551	8·2419 215	57·2899 62	11·7580 785	89
1 30	·0261 769	8·4179 190	·9996 573	9·9998 512	·0261 859	8·4180 679	38·1884 59	11·5819 321	88 30
2	·0348 995	8·5428 192	·9993 908	9·9997 354	·0349 208	8·5430 838	28·6362 53	11·4569 162	88
2 30	·0436 194	8·6396 796	·9990 482	9·9995 865	·0436 609	8·6400 931	22·9037 66	11·3599 069	87 30
3	·0523 360	8·7188 002	·9986 295	9·9991 044	·0524 078	8·7193 958	19·0811 37	11·2806 042	87
3 30	·0610 485	8·7856 753	·9981 348	9·9991 892	·0611 626	8·7864 861	16·3498 55	11·2135 139	86 30
4	·0697 565	8·8435 845	·9975 641	9·9989 408	·0699 268	8·8446 437	14·3006 66	11·1553 563	86
4 30	·0784 591	8·8946 433	·9969 173	9·9986 591	·0787 017	8·8959 842	12·7062 05	11·1040 158	85 30
5	·0871 557	8·9402 960	·9961 947	9·9983 442	·0874 887	8·9419 518	11·4300 52	11·0580 482	85
5 30	·0958 458	8·9815 729	·9953 962	9·9979 960	·0962 890	8·9835 769	10·3853 97	11·0164 231	84 30
6	·1045 285	9·0192 346	·9945 219	9·9976 143	·1051 042	9·0216 202	9·5143 645	10·9783 798	84
6 30	·1132 032	9·0538 588	·9935 719	9·9971 993	·1139 356	9·0566 595	8·7768 874	10·9433 405	83 30
7	·1218 693	9·0858 945	·9925 462	9·9967 507	·1227 846	9·0891 438	8·1443 464	10·9108 562	83
7 30	·1305 262	9·1156 977	·9914 449	9·9962 686	·1316 525	9·1194 291	7·5957 541	10·8805 709	82 30
8	·1391 731	9·1435 553	·9902 681	9·9957 528	·1405 408	9·1478 025	7·1153 697	10·8521 975	82
8 30	·1478 094	9·1697 021	·9890 159	9·9952 033	·1494 510	9·1744 988	6·6911 562	10·8255 012	81 30
9	·1564 345	9·1943 324	·9876 883	9·9946 199	·1583 844	9·1997 125	6·3137 515	10·8002 875	81
9 30	·1650 476	9·2176 092	·9862 856	9·9940 027	·1673 426	9·2236 065	5·9757 644	10·7763 935	80 30
10	·1736 482	9·2396 702	·9848 078	9·9933 515	·1763 270	9·2463 188	5·6712 818	10·7536 812	80
10 30	·1822 355	9·2606 330	·9832 549	9·9926 661	·1853 390	9·2679 669	5·3955 172	10·7320 331	79 30
11	·1908 090	9·2805 988	·9816 272	9·9919 466	·1943 803	9·2886 523	5·1445 540	10·7113 477	79
11 30	·1993 679	9·2996 553	·9799 247	9·9911 927	·2034 523	9·3084 626	4·9151 570	10·6915 374	78 30
12	·2079 117	9·3178 789	·9781 476	9·9904 044	·2125 566	9·3274 745	4·7046 301	10·6725 255	78
12 30	·2164 396	9·3353 368	·9762 960	9·9895 815	·2216 947	9·3457 552	4·5107 085	10·6542 448	77 30
13	·2249 511	9·3520 880	·9743 701	9·9887 239	·2308 682	9·3633 641	4·3314 759	10·6366 359	77
13 30	·2334 454	9·3681 853	·9723 699	9·9878 315	·2400 788	9·3803 537	4·1652 998	10·6196 463	76 30
14	·2419 219	9·3836 752	·9702 957	9·9869 041	·2493 280	9·3967 711	4·0107 809	10·6032 289	76
14 30	·2503 800	9·3985 996	·9681 476	9·9859 416	·2586 176	9·4126 581	3·8667 131	10·5873 419	75 30
15	·2588 190	9·4129 962	·9659 258	9·9849 438	·2679 492	9·4280 525	3·7320 508	10·5719 475	75
15 30	·2672 384	9·4268 988	·9636 305	9·9839 105	·2773 245	9·4429 883	3·6058 835	10·5570 117	74 30
16	·2756 374	9·4403 381	·9612 617	9·9828 416	·2867 454	9·4574 964	3·4874 144	10·5425 036	74
16 30	·2840 153	9·4533 418	·9588 197	9·9817 370	·2962 135	9·4716 048	3·3759 434	10·5283 952	73 30
17	·2923 717	9·4659 353	·9563 048	9·9805 963	·3057 307	9·4853 390	3·2708 526	10·5146 610	73
17 30	·3007 058	9·4781 418	·9537 170	9·9794 195	·3152 988	9·4987 223	3·1715 948	10·5012 777	72 30
18	·3090 170	9·4899 824	·9510 565	9·9782 063	·3249 197	9·5117 760	3·0776 835	10·4882 240	72
18 30	·3173 047	9·5014 764	·9483 237	9·9769 566	·3345 953	9·5245 199	2·9886 850	10·4754 801	71 30
19	·3255 682	9·5126 419	·9455 186	9·9756 701	·3443 276	9·5369 719	2·9042 109	10·4630 281	71
19 30	·3338 069	9·5234 953	·9426 415	9·9743 466	·3541 186	9·5491 487	2·8239 129	10·4508 513	70 30
20	·3420 201	9·5340 517	·9396 926	9·9729 858	·3639 702	9·5610 659	2·7474 774	10·4389 341	70
20 30	·3502 074	9·5443 253	·9366 722	9·9715 876	·3738 847	9·5727 377	2·6746 215	10·4272 623	69 30
21	·3583 679	9·5543 292	·9335 804	9·9701 517	·3838 640	9·5841 774	2·6050 891	10·4158 226	69
21 30	·3665 012	9·5640 754	·9304 176	9·9686 779	·3939 105	9·5953 975	2·5386 479	10·4046 025	68 30
22	·3746 066	9·5735 754	·9271 839	9·9671 659	·4040 262	9·6064 096	2·4750 869	10·3935 904	68
22 30	·3826 834	9·5828 397	·9238 795	9·9656 153	·4142 136	9·6172 243	2·4142 136	10·3827 757	67 30
Arc.	Co-sine.		Sine.		Co-tangent.		Tangent.		Arc.

N. B. From 0° to 22° 30′ the name of the column is at the head of the page, and from 67° 30′ to 90° the name of the column is at the foot of the page.

TRIGONOMETRY.

Arc.	Secant.		Co-secant.		Versed Sine.		Co-versed Sine.		Arc.
	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	
0°	1·0000 000	10·0000 000	Infinite.	Infinite.	·0000 000	Infinite negative.	1·0000 000	10·0000 000	**90°**
30′	1·0000 381	10·0000 165	114·5930 1	12·0591 581	·0000 381	5·5806 620	·9912 735	9·9961 935	89 30′
1	1·0001 523	10·0000 662	57·2986 88	11·7581 447	·0001 523	6·1827 137	·9825 476	9·9923 536	**89**
1 30	1·0003 428	10·0001 488	38·2015 50	11·5820 810	·0003 427	6·5348 825	·9738 231	9·9884 801	88 30
2	1·0006 095	10·0002 646	28·6537 08	11·4571 808	·0006 092	6·7847 406	·9651 005	9·9845 725	**88**
2 30	1·0009 527	10·0004 135	22·9255 86	11·3603 204	·0009 518	6·9785 359	·9563 806	9·9806 308	87 30
3	1·0013 723	10·0005 956	19·1073 23	11·2811 998	·0013 705	7·1368 680	·9476 640	9·9766 544	**87**
3 30	1·0018 687	10·0008 108	16·3804 08	11·2143 247	·0018 652	7·2707 258	·9389 515	9·9726 431	86 30
4	1·0024 419	10·0010 592	14·3355 87	11·1564 155	·0024 359	7·3866 683	·9302 435	9·9685 967	**86**
4 30	1·0030 922	10·0013 409	12·7454 95	11·1053 567	·0030 827	7·4889 265	·9215 409	9·9645 146	85 30
5	1·0038 198	10·0016 558	11·4737 13	11·0597 040	·0038 053	7·5803 891	·9128 443	9·9603 967	**85**
5 30	1·0046 251	10·0020 040	10·4334 31	11·0184 271	·0046 038	7·6631 166	·9041 542	9·9562 425	84 30
6	1·0055 083	10·0023 857	9·5667 722	10·9807 654	·0054 781	7·7386 303	·8954 715	9·9520 518	**84**
6 30	1·0064 697	10·0028 007	8·8336 715	10·9461 412	·0064 281	7·8080 856	·8867 968	9·9478 241	83 30
7	1·0075 098	10·0032 493	8·2055 090	10·9141 055	·0074 538	7·8723 806	·8781 307	9·9435 591	**83**
7 30	1·0086 290	10·0037 314	7·6612 976	10·8843 023	·0085 551	7·9322 271	·8694 738	9·9392 565	82 30
8	1·0098 276	10·0042 472	7·1852 965	10·8564 447	·0097 319	7·9881 990	·8608 269	9·9349 158	**82**
8 30	1·0111 061	10·0047 967	6·7654 691	10·8302 979	·0109 841	8·0407 659	·8521 906	9·9305 367	81 30
9	1·0124 651	10·0053 801	6·3924 532	10·8056 676	·0123 117	8·0903 166	·8435 655	9·9261 188	**81**
9 30	1·0139 051	10·0059 973	6·0588 580	10·7823 908	·0137 144	8·1371 768	·8349 524	9·9216 617	80 30
10	1·0154 266	10·0066 485	5·7587 705	10·7603 298	·0151 922	8·1816 220	·8263 518	9·9171 650	**80**
10 30	1·0170 303	10·0073 339	5·4874 043	10·7393 670	·0167 451	8·2238 875	·8177 645	9·9126 282	79 30
11	1·0187 167	10·0080 534	5·2408 431	10·7194 012	·0183 728	8·2641 757	·8091 910	9·9080 510	**79**
11 30	1·0204 866	10·0088 073	5·0158 517	10·7003 447	·0200 753	8·3026 619	·8006 321	9·9034 330	78 30
12	1·0223 406	10·0095 956	4·8097 343	10·6821 211	·0218 524	8·3394 991	·7920 883	9·8987 736	**78**
12 30	1·0242 795	10·0104 185	4·6202 263	10·6646 632	·0237 040	8·3748 215	·7835 604	9·8940 725	77 30
13	1·0263 041	10·0112 761	4·4454 115	10·6479 120	·0256 299	8·4087 475	·7750 489	9·8893 291	**77**
13 30	1·0284 152	10·0121 685	4·2836 576	10·6318 147	·0276 301	8·4413 821	·7665 546	9·8845 431	76 30
14	1·0306 136	10·0130 959	4·1335 655	10·6163 248	·0297 043	8·4728 189	·7580 781	9·8797 140	**76**
14 30	1·0329 003	10·0140 584	3·9939 292	10·6014 004	·0318 524	8·5031 416	·7496 200	9·8748 412	75 30
15	1·0352 762	10·0150 562	3·8637 033	10·5870 038	·0340 742	8·5324 253	·7411 810	9·8699 243	**75**
15 30	1·0377 422	10·0160 895	3·7419 775	10·5731 012	·0363 695	8·5607 379	·7327 616	9·8649 627	74 30
16	1·0402 994	10·0171 584	3·6279 553	10·5596 619	·0387 383	8·5881 406	·7243 626	9·8599 560	**74**
16 30	1·0429 489	10·0182 630	3·5209 365	10·5466 582	·0411 803	8·6146 891	·7159 847	9·8549 037	73 30
17	1·0456 918	10·0194 037	3·4203 036	10·5340 647	·0436 952	8·6404 342	·7076 283	9·8498 052	**73**
17 30	1·0485 291	10·0205 805	3·3255 095	10·5218 582	·0462 830	8·6654 220	·6992 942	9·8446 599	72 30
18	1·0514 622	10·0217 937	3·2360 680	10·5100 176	·0489 435	8·6896 949	·6909 830	9·8394 674	**72**
18 30	1·0544 923	10·0230 434	3·1515 453	10·4985 236	·0516 763	8·7132 918	·6826 953	9·8342 269	71 30
19	1·0576 207	10·0243 299	3·0715 535	10·4873 581	·0544 814	8·7362 485	·6744 318	9·8289 381	**71**
19 30	1·0608 487	10·0256 534	2·9957 443	10·4765 047	·0573 585	8·7585 979	·6661 931	9·8236 002	70 30
20	1·0641 778	10·0270 142	2·9238 044	10·4659 483	·0603 074	8·7803 705	·6579 799	9·8182 126	**70**
20 30	1·0676 094	10·0284 124	2·8554 510	10·4556 747	·0633 278	8·8015 945	·6497 926	9·8127 748	69 30
21	1·0711 450	10·0298 483	2·7904 281	10·4456 708	·0664 196	8·8222 961	·6416 321	9·8072 860	**69**
21 30	1·0747 862	10·0313 221	2·7285 038	10·4359 246	·0695 824	8·8424 996	·6334 988	9·8017 458	68 30
22	1·0785 347	10·0328 341	2·6694 672	10·4264 246	·0728 161	8·8622 277	·6253 934	9·7961 533	**68**
22 30	1·0823 922	10·0343 847	2·6131 259	10·4171 603	·0761 205	8·8815 014	·6173 166	9·7905 079	67 30
Arc.	Co-secant.		Secant.		Co-versed Sine.		Versed Sine.		Arc.

N. B. From **0°** to 22° 30′ the name of the column is at the head of the page, and from 67° 30′ to **90°** the name of the column is at the foot of the page.

ADDITIONAL TABLES.—B. *continued.*

TRIGONOMETRY.

	Sine.		Co-sine.		Tangent.		Co-tangent.		
Arc.	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	Arc.
23°	·3907 311	9·5918 780	·9205 049	9·9640 261	·4244 748	9·6278 519	2·3558 524	10·3721 481	**67°**
23 30′	·3987 491	9·6006 997	·9170 601	9·9623 978	·4348 124	9·6383 019	2·2998 425	10·3616 981	66 30′
24	·4067 366	9·6093 133	·9135 455	9·9607 302	·4452 287	9·6485 831	2·2460 368	10·3514 169	**66**
24 30	·4146 932	9·6177 270	·9099 613	9·9590 229	·4557 263	9·6587 041	2·1942 997	10·3412 959	65 30
25	4226 183	9·6259 483	·9063 078	9·9572 757	·4663 077	9·6686 725	2·1445 069	10·3313 275	**65**
25 30	·4305 111	9·6339 844	·9025 853	9 9554 882	·4769 755	9·6784 961	2·0965 436	10·3215 039	64 30
26	·4383 711	9·6418 420	·8987 940	9·9536 602	·4877 326	9·6881 818	2·0503 038	10·3118 182	**64**
26 30	·4461 978	9·6495 274	·8949 344	9·9517 912	·4985 816	9·6977 363	2·0056 897	10·3022 637	63 30
27	·4539 905	9·6570 468	·8910 065	9·9498 809	·5095 254	9·7071 659	1·9626 105	10·2928 341	**63**
27 30	·4617 486	9·6644 056	·8870 108	9·9479 289	·5205 671	9·7164 767	1·9209 821	10·2835 233	62 30
28	·4694 716	9·6716 093	·8829 476	9·9459 349	·5317 094	9·7256 744	1·8807 265	10·2743 256	**62**
28 30	·4771 588	9·6786 629	·8788 171	9·9438 985	·5429 557	9·7347 644	1·8417 709	10·2652 356	61 30
29	·4848 096	9·6855 712	·8746 197	9·9418 193	·5543 091	9·7437 520	1·8040 478	10·2562 480	**61**
29 30	·4924 236	9·6923 388	·8703 557	9·9396 968	·5657 728	9·7526 420	1·7674 940	10·2473 580	60 30
30	·5000 000	0·6989 700	·8660 254	9·9375 306	·5773 503	9·7614 394	1·7320 508	10·2385 606	**60**
30 30	·5075 384	9·7054 689	·8616 292	9·9353 204	·5890 450	9·7701 485	1·6976 631	10·2298 515	59 30
31	·5150 381	9·7118 393	·8571 673	9·9330 656	·6008 606	9·7787 737	1·6642 795	10·2212 263	**59**
31 30	·5224 986	9·7180 851	·8526 402	9·9307 658	·6128 008	9·7873 193	1·6318 517	10·2126 807	58 30
32	·5299 193	9·7242 097	·8480 481	9·9284 205	·6248 694	9·7957 892	1·6003 345	10·2042 108	**58**
32 30	·5372 996	9·7302 165	·8433 914	9·9260 292	·6370 703	9·8041 873	1·5696 856	10·1958 127	57 30
33	5446 390	9·7361 088	·8386 706	9·9235 914	·6494 076	9·8125 174	1·5398 650	10·1874 826	**57**
33 30	·5519 370	9·7418 895	·8338 858	9·9211 066	·6618 856	9·8207 829	1·5108 352	10·1792 171	56 30
34	·5591 929	9·7475 617	·8290 376	9·9185 742	·6745 085	9·8289 874	1·4825 610	10·1710 126	**56**
34 30	·5664 062	9·7531 280	·8241 262	9·9159 937	·6872 810	9·8371 343	1·4550 090	10·1628 657	55 30
35	·5735 764	9·7585 913	·8191 520	9·9133 645	·7002 075	9·8452 268	1·4281 480	10·1547 732	**55**
35 30	·5807 030	9·7639 540	·8141 155	9·9106 860	·7132 931	9·8532 680	1 4019 483	10·1467 320	54 30
36	·5877 853	9·7692 187	·8090 170	9·9079 576	·7265 425	9·8612 610	1·3763 819	10·1387 390	**54**
36 30	·5948 228	9·7743 876	·8038 569	9·9051 787	·7399 611	9·8692 089	1·3514 224	10·1307 911	53 30
37	·6018 150	9·7794 630	·7986 355	9·9023 486	·7535 541	9·8771 144	1·3270 448	10·1228 856	**53**
37 30	·6087 614	9·7844 471	·7933 533	9·8994 667	·7673 270	9·8849 805	1·3032 254	10·1150 195	52 30
38	·6156 615	9·7893 420	·7880 108	9·8965 321	·7812 856	9·8928 098	1·2799 416	10·1071 902	**52**
38 30	·6225 146	9·7941 496	·7826 082	9·8935 444	·7954 359	9·9006 052	1·2571 723	10·0993 948	51 30
39	·6293 204	9·7988 718	·7771 460	9·8905 026	·8097 840	9·9083 692	1·2348 972	10·0916 308	**51**
39 30	·6360 782	9·8035 105	·7716 246	9·8874 061	·8243 364	9·9161 045	1·2130 970	10·0838 955	50 30
40	·6427 876	9·8080 675	·7660 444	9·8842 540	·8390 996	9·9238 135	1·1917 536	10·0761 865	**50**
40 30	·6494 480	9 8125 444	·7604 060	9·8810 455	·8540 807	9·9314 989	1·1708 496	10·0685 011	49 30
41	·6560 590	9·8169 429	·7547 096	9·8777 799	·8692 867	9·9391 631	1·1503 684	10·0608 369	**49**
41 30	·6626 200	9·8212 646	·7489 557	9·8744 561	·8847 253	9·9468 084	1·1302 944	10·0531 916	48 30
42	·6691 306	9·8255 109	·7431 448	9·8710 735	·9004 040	9·9544 374	1·1106 125	10·0455 626	**48**
42 30	·6755 902	9·8296 833	·7372 773	9·8676 309	·9163 312	9·9620 525	1·0913 085	10·0379 475	47 30
43	·6819 984	9·8337 833	·7313 537	9·8641 275	·9325 151	9·9696 559	1·0723 687	10·0303 441	**47**
43 30	·6883 546	9·8378 122	·7253 744	9·8605 622	·9489 646	9·9772 500	1·0537 801	10·0227 500	46 30
44	·6946 584	9·8417 713	·7193 398	9·8569 341	·9656 888	9·9848 372	1·0355 303	10·0151 628	**46**
44 30	·7009 093	9·8456 618	·7132 504	9·8532 421	·9826 973	9·9924 197	1·0176 074	10·0075 803	45 30
45	·7071 068	9·8494 850	·7071 068	9·8494 850	1·0000 000	10·0000 000	1·0000 000	10·0000 000	**45**
Arc.	Co-sine.		Sine.		Co-tangent.		Tangent.		Arc.

B. From **23°** to **45°** the name of the column is at the head of the page, and **from** **45°** to **67°** the name of the column is at the foot of the page.

ADDITIONAL TABLES.—**B.** *continued.*

TRIGONOMETRY.

Arc.	Secant.		Co-secant.		Versed Sine.		Co-versed Sine.		Arc.
	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	Natural Number.	Log.	
23°	1·0863 604	10·0359 739	2·5593 047	10·4081 220	·0794 951	8·9003 406	·6092 689	9·7848 090	**67°**
23 30′	1·0904 411	10·0376 022	2·5078 428	10·3993 003	·0829 399	8·9187 636	·6012 509	9·7790 558	66 30
24	1·0946 363	10·0392 698	2·4585 933	10·3906 867	·0864 545	8·9367 878	·5932 634	9·7732 475	**66**
24 30	1·0989 479	10·0409 771	2·4114 210	10·3822 730	·0900 387	8·9544 294	·5853 068	9·7673 835	65 30
25	1·1033 779	10·0427 243	2·3662 016	10·3740 517	·0936 922	8·9717 035	·5773 817	9·7614 630	**65**
25 30	1·1079 285	10·0445 118	2·3228 205	10·3660 156	·0974 147	8·9886 246	·5694 889	9·7554 853	64 30
26	1·1126 019	10·0463 398	2·2811 720	10·3581 580	·1012 060	9·0052 061	·5616 289	9·7494 494	**64**
26 30	1·1174 004	10·0482 088	2·2411 585	10·3504 726	·1050 656	9·0214 607	·5538 022	9·7433 547	63 30
27	1·1223 262	10·0501 191	2·2026 893	10·3429 532	·1089 935	9·0374 005	·5460 095	9·7372 002	**63**
27 30	1·1273 819	10·0520 711	2·1656 806	10·3355 944	·1129 892	9·0530 368	·5382 514	9·7309 852	62 30
28	1·1325 701	10·0540 651	2·1300 545	10·3283 907	·1170 524	9·0683 803	·5305 284	9·7247 087	**62**
28 30	1·1378 932	10·0561 015	2·0957 385	10·3213 371	·1211 829	9·0834 413	·5228 412	9·7183 698	61 30
29	1·1433 541	10·0581 807	2·0626 653	10·3144 288	·1253 803	9·0982 293	·5151 904	9·7119 677	**61**
29 30	1·1489 555	10·0603 032	2·0307 720	10·3076 612	·1296 443	9·1127 534	·5075 764	9·7055 015	60 30
30	1·1547 005	10·0624 694	2·0000 000	10·3010 300	·1339 746	9·1270 225	·5000 000	9·6989 700	**60**
30 30	1·1605 921	10·0646 796	1·9702 944	10·2945 311	·1383 708	9·1410 446	·4924 616	9·6923 724	59 30
31	1·1666 334	10 0669 344	1·9416 040	10·2881 607	·1428 327	9·1548 276	·4849 619	9·6857 076	**59**
31 30	1·1728 277	10·0692 342	1·9138 809	10·2819 149	·1473 598	9·1683 791	·4775 014	9·6789 747	58 30
32	1·1791 784	10·0715 795	1·8870 799	10·2757 903	·1519 519	9·1817 061	·4700 807	9·6721 725	**58**
32 30	1·1856 890	10·0739 708	1·8611 590	10·2697 835	·1566 086	9·1948 155	·4627 004	9·6652 999	57 30
33	1·1923 633	10·0764 086	1·8360 785	10·2638 912	·1613 294	9·2077 136	·4553 610	9·6583 558	**57**
33 30	1·1992 049	10·0788 934	1·8118 010	10·2581 105	·1661 142	9·2204 067	·4480 630	9·6513 391	56 30
34	1·2062 179	10·0814 258	1·7882 916	10·2524 383	·1709 624	9·2329 007	·4408 071	9·6442 486	**56**
34 30	1·2134 064	10·0840 063	1·7655 173	10·2468 720	·1758 738	9·2452 012	·4335 938	9·6370 830	55 30
35	1·2207 746	10·0886 355	1·7434 468	10·2414 087	·1808 480	9·2573 136	·4264 236	9·6298 412	**55**
35 30	1·2283 269	10·0893 140	1·7220 508	10·2360 460	·1858 845	9·2692 431	·4192 970	9·6225 218	54 30
36	1·2360 680	10·0920 424	1·7013 016	10·2307 813	·1909 830	9·2809 947	·4122 147	9·6151 235	**54**
36 30	1·2440 026	10·0948 213	1·6811 730	10·2256 124	·1961 431	9·2925 731	·4051 772	9·6076 450	53 30
37	1·2521 357	10·0976 514	1·6616 401	10·2205 370	·2013 645	9·3039 829	·3981 850	9·6000 849	**53**
37 30	1·2604 724	10·1005 333	1·6426 796	10·2155 529	·2066 467	9·3152 284	·3912 386	9·5924 417	52 30
38	1·2690 182	10·1034 679	1·6242 692	10·2106 580	·2119 892	9·3263 138	·3843 385	9·5847 139	**52**
38 30	1·2777 787	10·1064 556	1·6063 879	10·2058 504	·2173 918	9·3372 432	·3774 854	9·5769 001	51 30
39	1·2867 596	10·1094 974	1·5890 157	10·2011 282	·2228 540	9·3480 205	·3706 796	9·5689 987	**51**
39 30	1·2959 670	10·1125 939	1·5721 337	10·1964 895	·2283 754	9·3586 494	·3639 218	9·5610 080	50 30
40	1·3054 073	10·1157 460	1·5557 238	10·1919 325	·2339 556	9·3691 334	·3572 124	9·5529 265	**50**
40 30	1·3150 870	10·1189 545	1·5397 690	10·1874 556	·2395 940	9·3794 760	·3505 520	9·5447 524	49 30
41	1·3250 130	10·1222 201	1·5242 531	10·1830 571	·2452 904	9·3896 806	·3439 410	9·5364 839	**49**
41 30	1·3351 924	10·1255 439	1·5091 605	10·1787 354	·2510 443	9·3997 503	·3373 800	9·5281 193	48 30
42	1·3456 327	10·1289 265	1·4944 765	10·1744 891	·2568 552	9·4096 883	·3308 694	9·5196 566	**48**
42 30	1·3563 417	10·1323 691	1·4801 872	10·1703 167	·2627 227	9·4194 975	·3244 098	9·5110 940	47 30
43	1·3673 275	10·1358 725	1·4662 792	10·1662 167	·2686 463	9·4291 809	·3180 016	9·5024 294	**47**
43 30	1·3785 985	10·1394 378	1·4527 397	10·1621 878	·2746 256	9·4387 411	·3116 454	9·4936 608	46 30
44	1·3901 636	10·1430 659	1·4395 565	10·1582 287	·2806 602	9·4481 808	·3053 416	9·4847 860	**46**
44 30	1·4020 321	10·1467 579	1·4267 182	10·1543 382	·2867 496	9·4575 027	·2990 907	9·4758 030	45 30
45	1·4142 136	10·1505 150	1·4142 136	10·1505 150	·2928 932	9·4667 093	·2928 932	9·4667 093	**45**
Arc.	Co-secant.		Secant.		Co-versed Sine.		Versed Sine.		Arc.

N. B. From **23°** to **45°** the name of the column is at the head of the page, and from **45°** to **67°** the name of the column is at the foot of the page.

DIAMETER, CIRCUMFERENCE, AND AREA OF CIRCLES.

Diameter.	Circumference.	Area.	Diameter.	Circumference.	Area.	Diameter.	Circumference.	Area.
·1	·31415	·0078	10·25	32·20132	82·52	21·75	68·32964	371·54
·2	·62831	·0314	10·50	32·98672	86·59	**22·**	69·11503	380·13
·3	·94247	·0707	10·75	33·77212	90·76	22·25	69·90043	388·82
·4	1·25663	·1257	**11·**	34·55751	95·03	22·50	70·68583	397·60
·5	1·57079	·1963	11·25	35·34291	99·40	22·75	71·47123	406·49
·6	1·88495	·2827	11·50	36·12831	103·87	**23·**	72·25663	415·47
·7	2·19911	·3848	11·75	36·91371	108·43	23·25	73·04202	424·55
·8	2·51327	·5026	**12·**	37·69911	113·09	23·50	73·82742	433·73
·9	2·82743	·6362	12·25	38·48451	117·86	23·75	74·61282	443·01
1·	3·14159	·7854	12·50	39·26990	122·72	**24·**	75·39822	452·39
1·25	3·92699	1·22	12·75	40·05530	127·67	24·25	76·18362	461·86
1·50	4·71238	1·76	**13·**	40·84070	132·73	24·50	76·96901	471·43
1·75	5·49778	2·40	13·25	41·62610	137·88	24·75	77·75441	481·10
2·	6·28318	3·14	13·50	42·41150	143·14	**25·**	78·53981	490·87
2·25	7·06858	3·97	13·75	43·19689	148·49	25·25	79·32521	500·74
2·50	7·85398	4·90	**14·**	43·98229	153·94	25·50	80·11061	510·70
2·75	8·63937	5·93	14·25	44·76769	159·48	25·75	80·89601	520·76
3·	9·42477	7·06	14·50	45·55309	165·13	**26·**	81·68140	530·93
3·25	10·21017	8·29	14·75	46·33849	170·87	26·25	82·46680	541·18
3·50	10·99557	9·62	**15·**	47·12388	176·71	26·50	83·25220	551·54
3·75	11·78097	11·04	15·25	47·90928	182·65	26·75	84·03760	562·00
4·	12·56637	12·56	15·50	48·69468	188·69	**27·**	84·82300	572·55
4·25	13·35176	14·18	15·75	49·48008	194·82	27·25	85·60839	583·20
4·50	14·13716	15·90	**16·**	50·26548	201·06	27·50	86·39379	593·95
4·75	14·92256	17·72	16·25	51·05088	207·39	27·75	87·17919	604·80
5·	15·70796	19·63	16·50	51·83627	213·82	**28·**	87·96459	615·75
5·25	16·49336	21·65	16·75	52·62167	220·35	28·25	88·74999	626·79
5·50	17·27875	23·76	**17·**	53·40707	226·98	28·50	89·53539	637·94
5·75	18·06415	25·97	17·25	54·19247	233·70	28·75	90·32078	649·18
6·	18·84955	28·27	17·50	54·97787	240·52	**29·**	91·10618	660·51
6·25	19·63495	30·68	17·75	55·76326	247·44	29·25	91·89158	671·95
6·50	20·42035	33·18	**18·**	56·54866	264·47	29·50	92·67698	683·49
6·75	21·20575	35·78	18·25	57·33406	266·58	29·75	93·46238	695·12
7·	21·99114	38·48	18·50	58·11946	268·80	**30·**	94·24777	706·85
7·25	22·77654	41·28	18·75	58·90486	276·11	30·25	95·03317	718·68
7·50	23·56194	44·17	**19·**	59·69026	283·53	30·50	95·81857	730·61
7·75	24·34734	47·17	19·25	60·47565	291·04	30·75	96·60397	742·64
8·	25·13274	50·26	19·50	61·26105	298·64	**31·**	97·38937	754·76
8·25	25·91813	53·45	19·75	62·04645	306·35	31·25	98·17477	766·99
8·50	26·70353	56·74	**20·**	62·83185	314·16	31·50	98·96016	779·31
8·75	27·48893	60·13	20·25	63·61725	322·06	31·75	99·74556	791·73
9·	28·27433	63·62	20·50	64·40264	330·06	**32·**	100·53096	804·24
9·25	29·05973	67·20	20·75	65·18804	338·16	32·25	101·31636	816·86
9·50	29·84513	70·88	**21·**	65·97344	346·36	32·50	102·10176	829·57
9·75	30·63052	74·66	21·25	66·75884	354·65	32·75	102·88715	842·38
10·	31·41592	78·54	21·50	67·54424	363·05			

☞ r = Radius. $\pi = 3·141592653$ &c.

DIAMETER, CIRCUMFERENCE, AND AREA OF CIRCLES.

DIAMETER.	CIRCUMFERENCE.	AREA.
33·	103·67255	855·29
33·25	104·45795	868·30
33·50	105·24335	881·41
33·75	106·02875	894·61
34·	106·81415	907·92
34·25	107·59954	921·32
34·50	108·38494	934·82
34·75	109·17034	948·41
35·	109·95574	962·11
35·25	110·74114	975·90
35·50	111·52653	989·79
35·75	112·31193	1003·78
36·	113·09733	1017·87
36·25	113·88273	1032·06
36·50	114·66813	1046·34
36·75	115·45352	1060·73
37·	116·23892	1075·21
37·25	117·02432	1089·79
37·50	117·80972	1104·46
37·75	118·59512	1119·24
38·	119·38052	1134·11
38·25	120·16591	1149·08
38·50	120·95131	1164·15
38·75	121·73671	1179·32
39·	122·52211	1194·59
39·25	123·30751	1209·95
39·50	124·09290	1225·41
39·75	124·87830	1240·97
40·	125·66370	1256·63
40·25	126·44910	1272·39
40·50	127·23450	1288·24
40·75	128·01990	1304·20
41·	128·80529	1320·25
41·25	129·59069	1336·40
41·50	130·37609	1352·65
41·75	131·16149	1368·99
42·	131·94689	1385·44
42·25	132·73228	1401·98
42 50	133·51768	1418·62
42·75	134·30308	1435·36
43·	135·08848	1452·20
43·25	135·87388	1469·13
43·50	136·65928	1486·16
43·75	137·44467	1503·30
44·	138·23007	1520·53
44·25	139·01547	1537·85
44·50	139·80087	1556·28
44·75	140·58627	1572·80
45·	141·37166	1590·43
45·25	142·15706	1608·15
45·50	142·94246	1625·97
45·75	143·72786	1643·88
46·	144·51326	1661·90
46·25	145·29866	1680·01
46·50	146·08405	1698·22
46·75	146·86945	1716·53
47·	147·65485	1734·94
47·25	148·44025	1753·45
47·50	149·22565	1772·02
47·75	150·01104	1790·75
48·	150·79644	1809·55
48·25	151·58184	1828·45
48·50	152·36724	1847·45
48·75	153·15264	1866·54
49·	153·93804	1885·74
49·25	154·72343	1905·83
49·50	155·50883	1924·42
49·75	156·29423	1943·90
50·	157·07963	1963·49
50·25	157·86503	1983·17
50·50	158·65042	2002·96
50·75	159·43582	2022·84
51·	160·22122	2042·82
51·25	161·00662	2062·89
51·50	161·79202	2083·07
51·75	162·57741	2103·34
52·	163·36281	2123·71
52·25	164·14821	2144·18
52·50	164·93361	2164·75
52·75	165·71901	2185·41
53·	166·50441	2206·18
53·25	167·28980	2227·04
53·50	168·07520	2248·00
53·75	168·86060	2269·06
54·	169·64600	2290·22
54·25	170·43140	2311·47
54·50	171·21679	2332·82
54·75	172·00219	2354·28
55·	172·78759	2375·82
55·25	173·57299	2397·47
55·50	174·35839	2419·22
55·75	175·14379	2441·06
56·	175·92918	2463·00
56·25	176·71458	2485·04
56·50	177·49998	2507·18
56·75	178·28538	2520·42
57·	179·07078	2551·75
57·25	179·85617	2574·19
57·50	180·64157	2596·72
57·75	181·42697	2619·35
58·	182·21237	2642·07
58·25	182·99777	2664·90
58·50	183·78317	2687·82
58·75	184·56856	2710·85
59·	185·35396	2733·97
59·25	186·13936	2757·18
59·50	186·92476	2780·50
59·75	187·71016	2803·92
60·	188·49555	2827·43
60·25	189·28095	2851·04
60·50	190·06635	2874·75
60·75	190·85175	2898·56
61·	191·63715	2922·46
61·25	192·42255	2946·47
61·50	193·20794	2970·57
61·75	193·99334	2994·77
62·	194·77874	3019·07
62·25	195·56414	3043·46
62·50	196·34954	3067·96
62·75	197·13493	3092·55
63·	197·92033	3117·24
63·25	198·70573	3142·03
63·50	199·49113	3166·92
63·75	200·27653	3191·90
64·	201·06192	3216·99
64·25	201·84732	3242·17
64·50	202·63272	3267·45
64·75	203·41812	3292·83
65·	204·20352	3318·30
65·25	204·98892	3343·88
65·50	205·77431	3369·55
65·75	206·55971	3395·32
66·	207·34511	3421·19
66·25	208·13051	3447·16
66·50	208·91591	3473·22
66·75	209·70130	3499·39

☞ CIRCUMFERENCE $= 2\pi r$. AREA $= \pi r^2$.

DIAMETER, CIRCUMFERENCE, AND AREA OF CIRCLES.

Diameter.	Circumference.	Area.	Diameter.	Circumference.	Area.	Diameter.	Circumference.	Area.
67·	210·48670	3525·65	78·25	245·82962	4809·04	89·25	280·38714	6256·12
67·25	211·27210	3552·01	78·50	246·61502	4839·81	89·50	281·17254	6291·25
67·50	212·05750	3578·47	78·75	247·40042	4870·69	89·75	281·95794	6326·43
67·75	212·84290	3605·02	**79·**	248·18581	4901·66	**90·**	282·74333	6361·72
68·	213·62830	3631·68	79·25	248·97121	4932·74	90·25	283·52873	6397·11
68·25	214·41369	3658·43	79·50	249·75661	4963·91	90·50	284·31413	6432·60
68·50	215·19909	3685·28	79·75	250·54201	4995·18	90·75	285·09953	6468·19
68·75	215·98449	3712·23	**80·**	251·32741	5026·54	**91·**	285·88493	6503·88
69·	216·76989	3739·28	80·25	252·11281	5058·01	91·25	286·67032	6539·66
69·25	217·55529	3766·42	80·50	252·89820	5089·57	91·50	287·45572	6575·54
69·50	218·34068	3793·66	80·75	253·68360	5121·23	91·75	288·24112	6611·53
69·75	219·12608	3821·01	**81·**	254·46900	5152·99	**92·**	289·02652	6647·61
70·	219·91148	3848·45	81·25	255·25440	5184·85	92·25	289·81192	6683·78
70·25	220·69688	3875·99	81·50	256·03980	5216·81	92·50	290·59732	6720·06
70·50	221·48228	3903·62	81·75	256·82519	5248·86	92·75	291·38271	6756·43
70·75	222·26768	3931·36	**82·**	257·61059	5281·01	**93·**	292·16811	6792·90
71·	223·05307	3959·19	82·25	258·39599	5313·26	93·25	292·95351	6829·47
71·25	223·83847	3987·12	82·50	259·18139	5345·61	93·50	293·73891	6866·14
71·50	224·62387	4015·15	82·75	259·96679	5378·06	93·75	294·52431	6902·91
71·75	225·40927	4043·28	**83·**	260·75219	5410·60	**94·**	295·30970	6939·77
72·	226·19467	4071·50	83·25	261·53758	5443·25	94·25	296·09510	6976·74
72·25	226·98006	4099·83	83·50	262·32298	5475·99	94·50	296·88050	7013·80
72·50	227·76546	4128·24	83·75	263·10838	5508·83	94·75	297·66590	7050·96
72·75	228·55086	4156·77	**84·**	263·89378	5541·76	**95·**	298·45130	7088·21
73·	229·33626	4185·38	84·25	264·67918	5574·80	95·25	299·23670	7125·57
73·25	230·12166	4214·10	84·50	265·46457	5607·93	95·50	300·02209	7163·02
73·50	230·90706	4242·91	84·75	266·24997	5641·17	95·75	300·80749	7200·57
73·75	231·69245	4271·82	**85·**	267·03537	5674·50	**96·**	301·59289	7238·22
74·	232·47785	4300·84	85·25	267·82077	5707·93	96·25	302·37829	7275·97
74·25	233·26325	4329·94	85·50	268·60617	5741·45	96·50	303·16369	7313·82
74·50	234·04865	4359·15	85·75	269·39157	5775·08	96·75	303·94908	7351·76
74·75	234·83405	4388·46	**86·**	270·17696	5808·80	**97·**	304·73448	7389·81
75·	235·61944	4417·86	86·25	270·96236	5842·62	97·25	305·51988	7427·95
75·25	236·40484	4447·36	86·50	271·74776	5876·54	97·50	306·30528	7466·19
75·50	237·19024	4476·96	86·75	272·53316	5910·56	97·75	307·09068	7504·52
75·75	237·97564	4506·66	**87·**	273·31856	5944·67	**98·**	307·87608	7542·96
76·	238·76104	4536·45	87·25	274·10395	5978·89	98·25	308·66147	7581·49
76·25	239·54643	4566·35	87·50	274·88935	6013·20	98·50	309·44687	7620·12
76·50	240·33183	4596·34	87·75	275·67475	6047·61	98·75	310·23227	7658·85
76·75	241·11723	4626·43	**88·**	276·46015	6082·12	**99·**	311·01767	7697·68
77·	241·90263	4656·62	88·25	277·24555	6116·72	99·25	311·80307	7736·61
77·25	242·68803	4686·91	88·50	278·03094	6151·43	99·50	312·58846	7775·63
77·50	243·47343	4717·29	88·75	278·81634	6186·23	99·75	313·37386	7814·76
77·75	244·25882	4747·78						
78·	245·04422	4778·36	**89·**	279·60174	6221·13	**100·**	314·15926	7853·98

LENGTH OF CIRCULAR ARCS.—RADIUS = 1.

Degrees.	Arc.	Degrees.	Arc.	Degrees.	Arc.	Degrees.	Arc.
1°	·0 174 533	46°	·8 028 515	91°	1·5 882 496	136°	2·3 736 478
2	·0 349 066	47	·8 203 047	92	1·6 057 029	137	2·3 911 011
3	·0 523 599	48	·8 377 580	93	1·6 231 562	138	2·4 085 544
4	·0 698 132	49	·8 552 113	94	1·6 406 095	139	2·4 260 077
5	·0 872 665	**50**	·8 726 646	**95**	1·6 580 628	**140**	2·4 434 610
6	·1 047 198	51	·8 901 179	96	1·6 755 161	141	2·4 609 142
7	·1 221 730	52	·9 075 712	97	1·6 929 694	142	2·4 783 675
8	·1 396 263	53	·9 250 245	98	1·7 104 227	143	2·4 958 208
9	·1 570 796	54	·9 424 778	99	1·7 278 760	144	2·5 132 741
10	·1 745 329	**55**	·9 599 311	**100**	1·7 453 293	**145**	2·5 307 274
11	·1 919 862	56	·9 773 844	101	1·7 627 825	146	2·5 481 807
12	·2 094 395	57	·9 948 377	102	1·7 802 358	147	2·5 656 340
13	·2 268 928	58	1·0 122 910	103	1·7 976 891	148	2·5 830 873
14	·2 443 461	59	1·0 297 443	104	1·8 151 424	149	2·6 005 406
15	·2 617 994	**60**	1·0 471 976	**105**	1·8 325 957	**150**	2·6 179 939
16	·2 792 527	61	1·0 646 508	106	1·8 500 490	151	2·6 354 472
17	·2 967 060	62	1·0 821 041	107	1·8 675 023	152	2·6 529 005
18	·3 141 593	63	1·0 995 574	108	1·8 849 556	153	2·6 703 538
19	·3 316 126	64	1·1 170 107	109	1·9 024 089	154	2·6 878 070
20	·3 490 659	**65**	1·1 344 640	**110**	1·9 198 622	**155**	2·7 052 603
21	·3 665 191	66	1·1 519 173	111	1·9 373 155	156	2·7 227 136
22	·3 839 724	67	1·1 693 706	112	1·9 547 688	157	2·7 401 669
23	·4 014 257	68	1·1 868 239	113	1·9 722 220	158	2·7 576 202
24	·4 188 790	69	1·2 042 772	114	1·9 896 753	159	2·7 750 735
25	·4 363 323	**70**	1·2 217 305	**115**	2·0 071 286	**160**	2·7 925 268
26	·4 537 856	71	1·2 391 838	116	2·0 245 819	161	2·8 099 801
27	·4 712 389	72	1·2 566 371	117	2·0 420 352	162	2·8 274 334
28	·4 886 922	73	1·2 740 904	118	2·0 594 885	163	2·8 448 867
29	·5 061 455	74	1·2 915 436	119	2·0 769 418	164	2·8 623 400
30	·5 235 988	**75**	1·3 089 969	**120**	2·0 943 951	**165**	2·8 797 933
31	·5 410 521	76	1·3 264 502	121	2·1 118 484	166	2·8 972 466
32	·5 585 054	77	1·3 439 035	122	2·1 293 017	167	2·9 146 999
33	·5 759 587	78	1·3 613 568	123	2·1 467 550	168	2·9 321 531
34	·5 934 119	79	1·3 788 101	124	2·1 642 083	169	2·9 496 064
35	·6 108 652	**80**	1·3 962 634	**125**	2·1 816 616	**170**	2·9 670 597
36	·6 283 185	81	1·4 137 167	126	2·1 991 149	171	2·9 845 130
37	·6 457 718	82	1·4 311 700	127	2·2 165 682	172	3·0 919 663
38	·6 632 251	83	1·4 486 233	128	2·2 340 214	173	3·0 194 196
39	·6 806 784	84	1·4 660 766	129	2·2 514 747	174	3·0 368 729
40	·6 981 317	**85**	1·4 835 299	**130**	2·2 689 280	**175**	3·0 543 262
41	·7 155 850	86	1·5 009 832	131	2·2 863 813	176	3·0 717 795
42	·7 330 383	87	1·5 184 364	132	2·3 038 346	177	3·0 892 328
43	·7 504 916	88	1·5 358 897	133	2·3 212 879	178	3·1 066 861
44	·7 679 449	89	1·5 533 430	134	2·3 387 412	179	3·1 241 394
45	·7 853 982	**90**	1·5 707 963	**135**	2·3 561 945	**180**	3·1 415 927

′	Arc.	′	Arc.	″	Arc.	″	Arc.	‴	Arc.	‴	Arc.
1′	2 909	10′	29 089	1″	48	10″	485	1‴	1	10‴	8
2	5 818	15	43 633	2	97	15	727	2	2	15	12
3	8 727	20	58 178	3	145	20	970	3	2	20	16
4	11 636	30	87 266	4	194	30	1 454	4	3	30	24
5	14 544	45	130 900	5	242	45	2 182	5	4	45	36
6	17 453	60	174 533	6	291	60	2 909	6	5	60	[illegible]

LENGTH OF CHORDS.—RADIUS = 10,000.

DEGREES.	CHORDS.	DEGREES.	CHORDS.	DEGREES.	CHORDS.	DEGREES.	CHORDS.
1°	175	51°	8 610	101°	15 432	151°	19 363
2	349	52	8 767	102	15 543	152	19 406
3	524	53	8 924	103	15 652	153	19 477
4	698	54	9 080	104	15 760	154	19 487
5	872	55	9 235	105	15 867	155	19 526
6	1 047	56	9 389	106	15 973	156	19 563
7	1 221	57	9 543	107	16 077	157	19 598
8	1 395	58	9 696	108	16 180	158	19 633
9	1 569	59	9 848	109	16 282	159	19 665
10	1 743	**60**	10 000	**110**	16 383	**160**	19 696
11	1 917	61	10 151	111	16 483	161	19 726
12	2 091	62	10 301	112	16 581	162	19 754
13	2 264	63	10 450	113	16 678	163	19 780
14	2 437	64	10 598	114	16 773	164	19 805
15	2 611	65	10 746	115	16 868	165	19 829
16	2 783	66	10 893	116	16 961	166	19 851
17	2 956	67	11 039	117	17 053	167	19 871
18	3 129	68	11 184	118	17 143	168	19 890
19	3 301	69	11 328	119	17 233	169	19 908
20	3 473	**70**	11 472	**120**	17 321	**170**	19 924
21	3 645	71	11 614	121	17 407	171	19 938
22	3 816	72	11 756	122	17 492	172	19 951
23	3 987	73	11 896	123	17 576	173	19 963
24	4 158	74	12 036	124	17 659	174	19 973
25	4 329	75	12 175	125	17 740	175	19 981
26	4 499	76	12 313	126	17 820	176	19 988
27	4 669	77	12 450	127	17 899	177	19 993
28	4 838	78	12 586	128	17 976	178	19 997
29	5 008	79	12 722	129	18 052	179	19 999
30	5 176	**80**	12 856	**130**	18 126	**180**	20 000
31	5 345	81	12 989	131	18 199		
32	5 513	82	13 121	132	18 271		
33	5 680	83	13 252	133	18 341		
34	5 847	84	13 383	134	18 410		
35	6 014	85	13 512	135	18 478		
36	6 180	86	13 640	136	18 544		
37	6 346	87	13 767	137	18 608		
38	6 511	88	13 893	138	18 672		
39	6 676	89	14 018	139	18 733		
40	6 840	**90**	14 142	**140**	18 794		
41	7 004	91	14 265	141	18 853		
42	7 167	92	14 387	142	18 910		
43	7 330	93	14 507	143	18 966		
44	7 492	94	14 627	144	19 021		
45	7 654	95	14 746	145	19 074		
46	7 815	96	14 863	146	19 126		
47	7 975	97	14 979	147	19 176		
48	8 135	98	15 094	148	19 225		
49	8 294	99	15 208	149	19 273		
50	8 452	**100**	15 321	**150**	19 319		

☞ The above Table is from *La Goniométrie,* by L. B. Francœur. 1820.

THE AREA AND DIAGONAL OF SQUARES.

Side.	Area.	Diagonal.	Side.	Area.	Diagonal.
1	1	1·414 213 562 373	51	2601	72·124 891 681 023
2	4	2·828 427 124 746	52	2704	73·539 105 243 396
3	9	4·242 640 687 119	53	2809	74·953 318 805 769
4	16	5·656 854 249 492	54	2916	76·367 532 368 142
5	25	7·071 067 811 865	55	3025	77·781 745 930 515
6	36	8·485 281 374 238	56	3136	79·195 959 492 888
7	49	9·899 494 936 611	57	3249	80·610 173 055 261
8	64	11·313 708 498 984	58	3364	82·024 386 617 634
9	81	12·727 922 061 357	59	3481	83·438 600 180 007
10	100	14·142 135 623 730	**60**	3600	84·852 813 742 385
11	121	15·556 349 186 103	61	3721	86·267 027 304 753
12	144	16·970 562 748 476	62	3844	87·681 240 867 126
13	169	18·384 776 310 849	63	3969	89·095 454 429 499
14	196	19·798 989 873 222	64	4096	90·509 667 991 872
15	225	21·213 203 435 595	65	4225	91·923 881 554 245
16	256	22·627 416 997 968	66	4356	93·338 095 116 618
17	289	24·041 630 560 341	67	4489	94·752 308 678 991
18	324	25·455 844 122 714	68	4624	96·166 522 241 364
19	361	26·870 057 685 087	69	4761	97·580 735 803 737
20	400	28·284 271 247 461	**70**	4900	98·994 949 366 116
21	441	29·698 484 809 833	71	5041	100·409 162 928 483
22	484	31·112 698 372 206	72	5184	101·823 376 490 856
23	529	32·526 911 934 579	73	5329	103·237 590 053 229
24	576	33·941 125 496 952	74	5476	104·651 803 615 602
25	625	35·355 339 059 325	75	5625	106·066 017 177 975
26	676	36·769 552 621 698	76	5776	107·480 230 740 348
27	729	38·183 766 184 071	77	5929	108·894 444 302 721
28	784	39·597 979 746 444	78	6084	110·308 657 865 094
29	841	41·012 193 308 817	79	6241	111·722 871 427 467
30	900	42·426 406 871 192	**80**	6400	113·137 084 989 847
31	961	43·840 620 433 563	81	6561	114·551 298 552 213
32	1024	45·254 833 995 936	82	6724	115·965 512 114 586
33	1089	46·669 047 558 309	83	6889	117·379 725 676 959
34	1156	48·083 261 120 682	84	7056	118·793 939 239 332
35	1225	49·497 474 683 055	85	7225	120·208 152 801 705
36	1296	50·911 688 245 428	86	7396	121·622 366 364 078
37	1369	52·325 901 807 801	87	7569	123·036 579 926 451
38	1444	53·740 115 370 174	88	7744	124·450 793 488 824
39	1521	55·154 328 932 547	89	7921	125·865 007 051 197
40	1600	56·568 542 494 923	**90**	8100	127·279 220 613 578
41	1681	57·982 756 057 293	91	8281	128·693 434 175 943
42	1764	59·396 969 619 669	92	8464	130·107 647 738 316
43	1849	60·811 183 182 039	93	8649	131·521 861 300 689
44	1936	62·225 396 744 412	94	8836	132·936 074 863 062
45	2025	63·639 610 306 785	95	9025	134·350 288 425 435
46	2116	65·053 823 869 158	96	9216	135·764 501 987 808
47	2209	66·468 037 431 531	97	9409	137·178 715 550 181
48	2304	67·882 250 993 904	98	9604	138·592 929 112 554
49	2401	69·296 464 556 277	99	9801	140·007 142 674 927
50	2500	70·710 678 118 654	**100**	10000	141·421 356 237 309

ADDITIONAL TABLES.—G.

DIAMETER, SOLIDITY, AND SUPERFICIES OF SPHERES.

Diameter.	Solidity.	Superficies.
1	·523 598 775	3·141 592 653
2	4·188 790 204	12·566 370 614
3	14·137 166 941	28·274 333 882
4	33·510 321 638	50·265 482 457
5	65·449 846 949	78·539 816 339
6	113·097 335 529	113·097 335 529
7	179·594 380 030	153·938 040 025
8	268·082 573 106	201·061 929 829
9	381·703 507 411	254·469 004 940
10	523·598 775 598	314·159 265 358
11	696·909 970 321	380·132 711 084
12	904·778 684 233	452·389 342 116
13	1 150·346 509 989	530·929 158 456
14	1 436·755 040 241	615·752 160 103
15	1 767·145 867 644	706·858 347 057
16	2 144·660 584 850	804·247 719 318
17	2 572·440 784 514	907·920 276 887
18	3 053·628 059 289	1 017·876 019 763
19	3 591·364 001 828	1 134·114 947 945
20	4 188·790 204 786	1 256·637 061 435
21	4 849·048 260 815	1 385·442 360 233
22	5 575·279 762 570	1 520·530 844 337
23	6 370·626 302 704	1 661·902 513 749
24	7 238·229 473 870	1 809·557 368 467
25	8 181·230 868 723	1 963·495 408 493
26	9 202·772 079 915	2 123·716 633 826
27	10 305·994 700 101	2 290·221 044 466
28	11 494·040 321 933	2 463·008 640 414
29	12 770·050 538 066	2 642·079 421 669
30	14 137·166 941 154	2 827·433 388 230
31	15 598·531 123 848	3 019·070 540 099
32	17 157·284 678 805	3 216·990 877 275
33	18 816·569 198 676	3 421·194 399 759
34	20 579·526 276 115	3 631·681 107 549
35	22 449·297 503 777	3 848·451 000 647
36	24 429·024 474 314	4 071·504 079 052
37	26 521·848 780 380	4 300·840 342 764
38	28 730·912 014 629	4 536·459 791 783
39	31 059·355 769 715	4 778·362 426 110
40	33 510·321 638 291	5 026·548 245 743
41	36 086·951 213 010	5 281·017 250 684
42	38 792·386 086 526	5 541·769 440 932
43	41 629·767 851 493	5 808·804 816 487
44	44 602·238 100 565	6 082·123 377 349
45	47 712·938 426 394	6 361·725 123 519
46	50 965·010 421 636	6 647·610 054 996
47	54 361·595 678 942	6 939·778 171 779
48	57 905·835 790 967	7 238·229 473 870
49	61 600·872 350 364	7 542·963 961 269
50	65 449·846 949 787	7 853·981 633 974

☞ r — Radius. π = 3·141592653 &c.

DIAMETER, SOLIDITY AND SUPERFICIES OF SPHERES.

DIAMETER.	SOLIDITY.	SUPERFICIES.
51	69 455·901 181 889	8 171·282 491 987
52	73 622·176 639 325	8 494·866 535 306
53	77 951·814 914 747	8 824·733 763 933
54	82 447·957 600 810	9 160·884 177 867
55	87 113·746 290 166	9 503·317 777 109
56	91 952·322 575 470	9 852·034 561 657
57	96 966·828 049 375	10 207·034 531 513
58	102 160·404 304 535	10 568·317 686 676
59	107 536·192 933 603	10 935·884 027 146
60	113 097·335 529 232	11 309·733 552 923
61	118 846·973 684 077	11 689·866 264 007
62	124 788·248 990 791	12 076·282 160 399
63	130 924·303 042 027	12 468·981 242 097
64	137 258·277 430 440	12 867·963 509 103
65	143 793·313 748 862	13 273·228 961 416
66	150 532·553 589 408	13 684·777 599 037
67	157 479·138 545 271	14 102·609 421 964
68	164 636·210 208 924	14 526·724 430 199
69	172 006·910 173 021	14 957·122 623 741
70	179 594·380 030 216	15 393·804 002 589
71	187 401·761 373 162	15 836·768 566 746
72	195 432·195 794 513	16 286·016 316 209
73	203 688·824 886 923	16 741·547 250 980
74	212 174·790 243 045	17 203·361 371 057
75	220 893·233 455 532	17 671·458 676 442
76	229 847·296 117 038	18 145·839 167 134
77	239 040·119 820 218	18 626·502 843 133
78	248 474·846 157 723	19 113·449 704 440
79	258 154·616 722 209	19 606·679 751 053
80	268 082·573 106 329	20 106·192 982 974
81	278 261·856 902 735	20 611·989 400 202
82	288 695·609 704 082	21 124·069 002 737
83	299 386·973 103 024	21 642·431 790 580
84	310 339·088 692 214	22 167·077 763 729
85	321 555·098 064 305	22 698·006 922 186
86	333 038·142 811 951	23 235·219 265 950
87	344 791·364 527 806	23 778·714 795 021
88	356 817·904 804 523	24 328·493 509 399
89	369 120·905 234 757	24 884·555 409 084
90	381 703·507 411 159	25 446·900 494 077
91	394 568·852 926 385	26 015·528 764 377
92	407 720·083 373 088	26 590·440 219 984
93	421 160·340 343 920	27 171·634 860 898
94	434 892·765 431 537	27 759·112 687 119
95	448 920·500 228 591	28 352·873 698 647
96	463 246·686 327 736	28 952·917 895 483
97	477 874·465 321 626	29 559·245 277 626
98	492 806·978 802 914	30 171·855 845 076
99	508 047·368 364 253	30 790·749 597 833
100	523 598·775 598 298	31 415·926 535 897

☞ SOLIDITY = $\frac{4\pi r^3}{3}$. SURFACE = $4\pi r^2$.

GEOGRAPHY.

MEASUREMENTS of the Superficies of the LAND on CONTINENTS and ISLANDS, in Square Degrees, by M. BALACHOFF.

From the '*Comptes Rendus de l'Académie des Sciences*,' 6 Dec. 1852.

The entire surface of the GLOBE . . . . 41,126 square degrees.
Of which little more than ¼ is TERRA FIRMA . . . 10,850 do.

		Square Degrees.
EUROPE		796·18
ASIA		3365·46
AFRICA		2366·39
NORTH AMERICA		2000·
SOUTH AMERICA		1447·28
OCEANICA { Australia	633	
Various Archipelagos	242	875·
		10850·31

The following are among the principal ISLANDS of the Globe.

	Square Degrees.		Square Degrees.		Square Degrees.
BORNEO	58·12	JAVA	11·25	SPITZBERGEN	6·
NEW GUINEA	56·70	MANILLA	10·	VAN DIEMEN	5·
MADAGASCAR	49·50	CUBA	7·80	CEYLON	5·
SUMATRA	34·	NEWFOUNDLAND	7·50	SICILY	2·20
NIPHON	19·50	NOVA ZEMBLA	7·	SARDINIA	2·
GREAT BRITAIN	17·54	IRELAND	6·80	JAMAICA	1·33
CELEBES or MACASSAR	14·50	TERRA DEL FUEGO	6·50	CYPRUS	1·
NEW ZEALAND, S°. Isl^d.	12·	ICELAND	6·25	CORSICA	·70
Ditto, N°. Isl^d.	11·	ST. DOMINGO	6·	CANDIA	·70

TABLE of the Length in Yards of ONE Minute of LONGITUDE and LATITUDE, being ONE Geographical or Nautical Mile = 2025 Yards.

N. B. To obtain the number of Miles in a Degree, at any Latitude or Longitude, multiply the tabular numbers by 60 and divide by 1760; thus at the Equator the length of a Degree is 69·15 Miles of 1760 Yards each.

LATITUDE.	Min. of LONGITUDE.	Min. of LATITUDE.	LATITUDE.	Min. of LONGITUDE.	Min. of LATITUDE.	LATITUDE.	Min. of LONGITUDE.	Min. of LATITUDE.	LATITUDE.	Min. of LONGITUDE.	Min. of LATITUDE.
Deg.	Yards.	Yards.	Deg.	Yards.	Yards.	Deg.	Yards.	Yards.	Deg.	Yards.	Yards.
0°	2028·4	2028·4	28°	1792·4		45°	1436·6		59°	1047·2	2043·4
2	2027·2		30	1758·0		46	1411·4		60	1016·8	
4	2023·4		32	1721·8		47	1385·8	2039·4	61	986·0	
6	2017·4		34	1683·4		48	1359·8		62	954·8	
8	2008·8		35	1663·4	2035·0	49	1333·2		63	923·4	
10	1997·8		36	1643·0		50	1306·4		64	891·6	
12	1984·4	2029·26	37	1622·0		51	1279·0		65	859·6	2045·2
14	1968·6		38	1600·4		52	1251·4		66	827·4	
16	1950·4		39	1578·4		53	1223·4	2041·6	67	794·8	
18	1929·8		40	1556·0		54	1195·0		68	762·0	
20	1907·2		41	1533·0	2037·2	55	1166·0		69	729·0	
22	1881·8		42	1509·6		56	1136·8		70	695·8	
24	1854·0	2031·74	43	1485·8		57	1107·4				
26	1824·2		44	1461·4		58	1077·4				

ASTRONOMY.—PRINCIPAL ELEMENTS OF THE SOLAR SYSTEM.

NAME OF THE PLANET.	DIAMETER.			VOLUME.	MASS.		DENSITY.	Weight at the Surface.	Light and Heat at Surface.	Rotation on Axis.
	In Miles.	Earth = 1.	Mean apparent from Earth.	Earth = 1.	Sun = 1.	Earth = 1.	Earth. = 1.	On Earth. = 1.	On Earth = 1.	Mean Solar Time.
			′ ″							Days h. m.
☿ **MERCURY** . .	3,100	0·391	0 6·9	0·060	$\frac{1}{4865751}$	0·073	2·94	1·15	6·67	0 24 5
♀ **VENUS** . . .	7,800	0·985	0 16·9	0·957	$\frac{1}{401839}$	0·885	0·923	0·91	1·91	0 23 21
⊕ **EARTH** . . .	7,926	1·000		1·000	$\frac{1}{355499}$	1 000	1·000	1·00	1·00	0 23 56
♂ **MARS** . . .	4,100	0·519	0 6·29	0·140	$\frac{1}{2680337}$	0·132	0·948	0·50	0·43	0 24 37
♃ **JUPITER** . .	88,900	11·225	0 36·74	1414·2	$\frac{1}{1047.871}$	339 258	0·238	2·45	0·037	0 9 55
♄ **SATURN** . . .	79,100	9·982	0 16·20	734·8	$\frac{1}{3501.6}$	101·524	0·138	1·09	0.011	0 10 30
♅ **URANUS** . .	34,400	4·344	0 4·0	82·0	$\frac{1}{21000}$	16·928	0·180	1·05	0·003	
♆ **NEPTUNE** . .	37,400	4·719	0 2·7	110·6	$\frac{1}{14496}$	24·524	0·222	1·10	0·001	
☉ **SUN**	888,500	112·11	32 1·8	1409000·0	1.	355499·	0·252	28·36		25 12 0
☽ **MOON** . . .	2,160	0·272	31 7·0	0·0204	$\frac{1}{355499\times 82.5}$	0·0121	0·605	0·163	1·00	27 7 43

MEMORANDA.—**NEWTON'S** great law:

All particles of Matter throughout the whole **SOLAR SYSTEM** and all space, gravitate towards each other with forces that are as their quantities of matter directly, and as the squares of their distances from each other reciprocally.

KEPLER'S three laws:

I. That the Orbit of each **PLANET** is an ellipse, of which the **SUN** occupies one of the foci.

II. The Areas described about the **SUN** by the Radius Vector of the **PLANET** are proportionate to the times employed in describing them.

III. The Squares of the times of sidereal revolutions of the **PLANETS** are to each other as the cubes of their mean distances.

GRAVITATION.—Its intensity increases as the squares of the distance decrease.

INVERSE SQUARE OF DISTANCE.—The attraction of one body for another at the distance of 2 miles is four times less than at the distance of 1 mile; at 3 miles it is nine times less than at 1; at 4 miles it is sixteen times less, and so on; that is, the gravitating force decreases in intensity as the squares of the distance increase.

☞ All the planets without exception, and almost all the satellites, move in one direction round the sun.

Out of thirty-six Comets which have had elliptic elements assigned to them, only five are retrograde, and of these only two, viz. Halley's and the Great Comet of 1843, can be regarded as satisfactorily made out.

ASTRONOMY.—PRINCIPAL ELEMENTS O

	NAME OF THE PLANET.	Mean orbital Motion in a Solar Day.	Mean Sidereal Revolution in mean Solar Days.	Mean Distance from the Sun, or Semi-axis. Earth as Unity.	Ex-centricity of Orbit, in parts of Semi-axis.	Longitude of Perihelion.
			Days.			
☿	MERCURY . .	14″732·419	87·96926	0·387 0985	0·2056 063	74° 20′ 42″
♀	VENUS . . .	5767·668	224·70080	0·723 3317	0·0068 618	128 43 6
⊕	EARTH . . .	3548·193	365·25637	1·000 0000	0·0167 9226	99 30 29
♂	MARS . . .	1886·519	686·97964	1·523 691	0·0932 168	332 22 51
♃	JUPITER . . .	299·129	4332·58482	5·202 798	0·0481 621	11 7 38
♄	SATURN . . .	120·455	10759·2198	9·538 852	0 0561 505	89 8 20
♅	URANUS . . .	42·233	30686·8205	19·182 73	0·0466 794	167 30 24
♆	NEPTUNE . .	21·554	60127·	30·04	0·0087 195	47 14 37
	The Asteroids.*					
8	FLORA . . .	1086·0790	1193·281	2·201 72	0·1567 97	32 49 45
43	ARIADNE. . .	1084·5185	1194·9983	2·203 83	0·1675 64	264 28 58
40	HARMONIA . .	1039·4094	1246·860	2·267 14	0·0460 84	2 1 51
18	MELPOMENE. .	1020·0440	1270·531	2·295 75	0·2171 87	15 13 59
12	VICTORIA . .	995·8340	1301·4193	2·332 81	0·2189 19	301 39 25
27	EUTERPE . .	986·6260	1313·5658	2·347 30	0·1728 96	87 39 0
4	VESTA . . .	978·2852	1324·7670	2·360 63	0·0901 78	250 46 29
30	URANIA . . .	975·2077	1328·9446	2·365 59	0·1263 97	30 48 47
52	NEMAUSA . .	974·6782	1329·6673	2·366 44	0·0663 95	175 27 22
7	IRIS	963·1396	1345·600	2·385 31	0·2323 51	41 20 22
9	METIS . . .	962·3317	1346·7272	2·386 64	0·1228 71	71 11 45
24	PHOCEA . . .	953·6780	1358·9479	2·401 06	0·2525 32	302 46 9
20	MASSALIA . .	948·7895	1365·9491	2·409 30	0·1438 33	98 36 35
42	ISIS	946·9044	1368·6682	2·412 49	0·2126 62	318 6 53
44	NYSA. . . .	940·0778	1378·6067	2·424 16	0·1493 34	111 37 53
6	HEBE. . . .	939·3772	1379·635	2·425 36	0·2020 07	15 15 26
21	LUTETIA . . .	933·5550	1388·2357	2·435 44	0·1620 53	327 3 12
19	FORTUNA . .	930·1638	1393·3007	2·441 35	0·1579 26	30 21 50
11	PARTHENOPE .	924·3222	1402·1061	2·451 63	0·0996 26	316 3 7
17	THETIS . . .	912·5926	1420·1300	2·472 59	0·1267 73	259 22 44
41	DAPHNE . . .	903·0956	1435·0613	2·489 90	0·2153 60	231 5 48
46	HESTIA . . .	881·5370	1470·1607	2·530 33	0·1661 49	354 31 21
29	AMPHITRITE. .	868·8694	1491·5910	2·554 86	0·0723 82	56 39 7
13	EGERIA . . .	857·7694	1510·8931	2·576 86	0·0891 12	119 45 7

The SUN'S Diameter as seen from the PLANETS of our System.

From	☿	♀	⊕	♂	♃	♄	♅
	80′	46′	32′1″·8	21′	6′	3′	1′3″

The Passage of LIGHT from the SUN to the EARTH occupies **8′ 17″·8.**

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* **65** *Telescopic Planets* between MARS and JUPITER.

E SOLAR SYSTEM——*continued.*

Mean ongitude of Epoch.	Longitude of Ascending Node.	Inclination of Orbit to the Ecliptic.	Epoch in Mean Time of Greenwich.	Name of Discoverer.	Date of Discovery.
° ′ ″	° ′ ″	° ′ ″			
12 17 40	45 57 38	7 0 5	1 Jan. 1800	Ancient.	
16 45 34	74 51 41	3 23 29	do.	do.	
0 53 53	0 0 0	0 0 0	do.	do.	
33 5 46	47 59 38	1 51 6	do.	do.	
31 55 8	98 25 45	1 18 52	do.	do.	
23 6 30	111 56 7	2 29 36	do.	do.	
3 30 37	72 59 21	0 46 28	do.	Herschel.	13 March, 1781
5 8 58	130 6 52	1 46 59	1 Jan. 1850	LeVerrier & Adams	23 Sept. 1846
4 46 12	110 20 53	5 53 3	24·0 March, 1852	Hind.	18 Oct. 1847
4 20 39	277 13 40	3 27 48	17·0 April, 1857	Pogson.	15 April, 1857
2 12 48	93 32 2	4 15 48	1·0 July, 1856	Goldschmidt.	31 March, 1856
1 42 29	150 0 56	10 9 2	0·0 Jan. 1853	Hind.	24 June, 1852
7 42 42	235 34 42	8 23 19	0·0 Jan. 1851	do.	13 Sept. 1850
0 44 9	93 44 35	1 35 31	14·0 June, 1859	do.	8 Nov. 1853
4 44 35	103 22 5	7 8 16	17·0 Dec. 1856	Olbers.	29 March, 1807
5 28 52	308 11 6	2 5 56	0·0 Jan. 1855	Hind.	22 July, 1854
4 21 7	175 38 56	9 56 55	0·0 Jan. 1858	Laurent.	22 Jan. 1858
5 45 12	259 44 5	5 28 16	8·0 June, 1852	Hind.	13 Aug. 1847
3 8 55	68 29 31	5 35 58	30·0 June, 1858	Graham.	26 April, 1848
4 46 49	214 4 55	21 35 54	10·0 July, 1857	Chacornac.	6 April, 1853
3 52 41	206 42 29	0 41 7	22·0 Aug. 1859	De Gasparis. Chacornac.	19 Sept. 1852 20 ,, ,,
5 39 1	84 27 20	8 34 45	30·0 June, 1856	Pogson.	23 May, 1856
3 10 3	131 1 17	3 41 41	0·0 Jan. 1858	Goldschmidt.	27 May, 1857
7 26 29	138 31 55	14 46 32	13·0 July 1852	Hencke.	1 July, 1847
1 24 37	80 27 57	3 5 9	2·0 Jan. 1853	Goldschmidt.	15 Nov. 1852
3 59 32	211 25 39	1 32 31	5·0 March, 1858	Hind.	22 Aug. 1852
7 27 15	125 1 1	4 37 1	10·0 Nov. 1855	De Gasparis.	11 May, 1850
4 30 46	125 25 55	5 35 28	21·0 April, 1856	Luther.	17 April, 1852
1 19 28	179 29 10	15 0 9	31·0 May, 1856	Goldschmidt.	22 May, 1856
7 16 17	181 26 47	2 17 49	25·5 March, 1860	Pogson.	16 Aug. 1857
3 11 56	356 26 52	6 7 50	9·0 July, 1859	Marth.	1 March, 1854
4 56 43	43 17 34	16 32 14	19·0 Feb. 1856	De Gasparis.	2 Nov. 1850

The Diameters of the Planets and Moon as seen from the Sun.

☿	♀	⊕	♂	♃	♄	♅	☽
16″	30″	17″·2	10″	37″	16″	4″	4″·6

☞ *On 15 Sept. 1860,* **60th Asteroid, by Ferguson, at Washington.**
On 10 Feb. 1861, **63rd Asteroid—Italia, by De Gasparis.**

ASTRONOMY.—PRINCIPAL ELEMENTS

	NAME OF THE PLANET.	Mean orbital Motion in a Solar Day.	Mean Sidereal Revolution in mean Solar Days.	Mean Distance from the Sun or Semi-axis, Earth as Unity.*	Ex-centricity of Orbit, in parts of Semi-axis.	Longitude of Perihelion
	Asteroids—*cont.*	″	Days.			° ′
5	ASTREA . . .	857·4996	1511·369	2·577 40	0·1887 51	135 42
47	PSEUDO-DAPHNE	854·4862	1516·6984	2·583 45	0·2265 40	294 49
14	IRENE. . . .	853·5922	1518·2866	2·585 26	0·1687 13	178 51
32	POMONA . . .	852·8286	1519·6463	2·586 80	0·0824 40	194 21
59	PLANET, 12 Sep.'60	843·7526	1534·9928	2·605 32	0·1963 17	337 52
54	CALYPSO . . .	840·0858	1542·6971	2·612 89	0·1802 50	94 38
23	THALIA . . .	833·8635	1554·2093	2·625 87	0·2359 37	123 11
37	FIDES	826·1750	1568·6724	2·642 14	0·1748 92	66 4
15	EUNOMIA . . .	822·0764	1576·493	2·650 91	0·1893 39	27 13
51	VIRGINIA. . .	822·0400	1576·5625	2·650 99	0·2871 49	173 29
26	PROSERPINE . .	819·6815	1581·0995	2·656 07	0·0875 21	235 17
3	JUNO	813·9149	1592·3044	2·668 61	0·2565 38	54 9
58	CONCORDIA . .	808·6390	1602·6907	2·680 20	0·0516 58	116 30
34	CIRCE	805·2392	1609·4570	2·687 74	0·1056 22	149 49
55	ALEXANDRA . .	796·3781	1627·3734	2·707 65	0·1990 58	293 56
45	EUGENIA . . .	790·3344	1639·8094	2·721 43	0·0824 27	230 2
38	LEDA	784·1253	1656·6042	2·739 98	0·1555 25	100 44
36	ATALANTA . .	778·0949	1665·6000	2·749 89	0·2981 71	42 23
56	PANDORA . . .	773·8975	1674·6373	2·759 82	0·1420 85	11 26
1	CERES	771·0839	1680·7515	2·766 54	0·0795 15	149 25
2	PALLAS . . .	769·8142	1683·5231	2·769 58	0·2391 19	122 5
39	LŒTITIA . . .	769·3910	1684·4466	2·770 59	0·1110 23	2 3
28	BELLONA . . .	767·5226	1688·5462	2·775 08	0·1546 81	122 18
33	POLYMNIA . .	732·1375	1770·1565	2·863 80	0·3377 53	340 42
48	AGLAIA . . .	724·6771	1788·3794	2·883 42	0·1310 13	314 6
35	LEUCOTHEA . .	719·8253	1800·4342	2·896 36	0·1983 82	185 38
22	CALLIOPE . . .	714·9083	1812·8167	2·909 62	0·1036 59	58 12
16	PSYCHE . . .	710·0572	1825·2021	2·922 86	0·1346 33	12 37
61	DANAE . . .	691·5880	1873·9452	2·974 67	0·1630 84	340 8
50	PALES. . . .	654·5315	1980·0387	3·085 91	0·2378 04	32 50
53	EUROPA . . .	650·1127	1993·4978	3·099 88	0·1009 38	102 14
49	DORIS . . .	648·6710	1997·9278	3·104 47	0·0758 01	77 37
62	ERATO . . .	647·3010	2002·1560	3·108 85	0·1697 26	26 12
25	THEMIS . . .	637·2174	2033·8389	3·141 56	0·1226 58	134 20
10	HYGEIA . . .	634·2404	2043·386	3·151 38	0·1009 15	228
31	EUPHROSYNE .	632·8023	2048·0294	3·156 16	0·2160 12	93 51
57	MNÉMOSYNE. .	632·4631	2049·1276	3·157 28	0·1041 15	52 53

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* The Semi-axis or Mean distance of the EARTH from the SUN is 95 Millions of

HE SOLAR SYSTEM——*continued.*

Mean Longitude of Epoch.	Longitude of Ascending Node.	Inclination of Orbit to the Ecliptic.	Epoch in Mean Time of Greenwich.	Name of Discoverer.	Date of Discovery.
° ′ ″	° ′ ″	° ′ ″			
197 37 39	141 27 48	5 19 23	19·5 April, 1851	Hencke.	8 Dec. 1845
331 0 42	194 50 13	7 56 51	13·5 Sept. 1857	Goldschmidt.	9 Sept. 1857
222 1 56	86 49 1	9 6 44	1·0 May, 1851	Hind.	19 May, 1851
57 35 35	220 52 28	5 29 3	5·0 Jan. 1855	Goldschmidt.	26 Oct. 1854
353 44 7	167 9 22	6 35 55	15·5 Sept. 1860	Chacornac.	12 Sept. 1860
169 52 29	143 29 56	5 3 39	27·0 April, 1858	Luther.	4 April, 1858
89 5 34	67 55 4	10 13 59	0·0 Jan. 1853	Hind.	15 Dec. 1852
42 35 43	8 9 44	3 7 11	16·0 Nov. 1755	Luther.	5 Oct. 1855
47 43 49	293 53 19	11 43 50	13·0 Oct. 1852	De Gasparis.	29 July, 1851
175 1 19	10 28 43	2 47 46	5·0 Oct. 1857	Luther.	19 Oct. 1857
181 23 10	45 53 15	3 35 40	20·0 March, 1857	do.	5 May, 1853
342 0 40	170 57 46	13 3 21	7·0 Aug. 1856	Harding.	1 Sept. 1804
179 49 16	162 3 39	5 15 31	10·0 April, 1860	Luther.	10 April, 1860
257 34 21	184 49 8	5 26 32	17·0 June, 1860	Chacornac.	6 April, 1855
346 22 25	313 50 18	11 47 9	30·0 Dec. 1858	Goldschmidt.	10 Sept. 1858
294 35 7	148 5 53	6 34 58	0·0 Jan. 1858	do.	11 July, 1857
112 56 49	296 27 35	6 58 26	0·0 Jan. 1856	Chacornac.	12 Jan. 1856
36 21 36	359 9 29	18 42 9	0·0 Jan. 1856	Goldschmidt.	5 Oct. 1855
28 26 40	10 57 29	7 13 30	30·0 Dec. 1858	Searle.	10 Sept. 1858
146 44 36	80 48 25	10 36 28	15·0 Feb. 1857	Piazzi.	1 Jan. 1801
119 18 8	172 38 28	34 42 41	22·0 Jan. 1857	Olbers.	28 March, 1802
146 44 26	157 19 22	10 20 58	1·0 Jan. 1856	Chacornac.	8 Feb. 1856
159 2 10	144 42 58	9 22 33	0·0 March, 1854	Luther.	1 March, 1854
277 57 31	9 20 8	1 56 58	6·0 June, 1858	Chacornac.	28 Oct. 1854
83 47 2	4 16 58	5 0 0	5·0 Jan. 1859	Luther.	15 Sept. 1857
187 28 19	359 44 20	8 23 4	0·0 April, 1855	do.	19 April, 1855
77 0 15	66 36 56	13 44 52	0·0 Jan. 1853	Hind.	16 Nov. 1852
51 32 41	150 29 44	3 4 9	26·0 Nov. 1855	De Gasparis.	17 March, 1852
345 42 59	334 19 6	18 17 1	29·0 Sept. 1860	Goldschmidt.	9 Sept. 1860
10 31 26	290 30 48	3 8 31	0·0 Nov. 1858	do.	19 Sept. 1857
136 26 25	129 56 57	7 24 35	0·0 Jan. 1858	do.	6 Feb. 1858
9 55 13	185 14 2	6 29 43	0·0 Jan. 1858	do.	19 Sept. 1857
12 27 23	126 41 9	2 11 55	1·0 Oct. 1860	Forster & Lesser.	14 Sept. 1860
171 46 5	35 49 29	0 49 26	4·0 May, 1853	De Gasparis.	6 April, 1853
356 45 35	287 38 27	3 47 11	28·5 Sept. 1851	do.	14 April, 1849
53 50 14	31 25 23	26 25 12	0·0 Jan. 1855	Ferguson.	1 Sept. 1854
28 35 49	200 5 25	15 8 2	1·0 Jan. 1859	Luther.	22 Sept. 1859

☞ On 5 and 9 March, 1861, the 64th (Angelina) and 65th Asteroid,
by M. Tempel, at Marseilles.

ASTRONOMY.—*continued.*—SATELLITES.

Satellite of the EARTH. The MOON. (*1st Jan.* **1801,** ***Mean Time of Greenwich.***)

	days	h.	m.	s.
Mean Sidereal Revolution	**27**	**7**	**43**	**11·5**
Tropical ditto	**27**	**7**	**43**	**4·7**
Synodical ditto	**29**	**12**	**44**	**2 9**
Anomalistic ditto	**27**	**13**	**18**	**37·4**

	°	′	″
Mean Longitude of the Epoch	**118**	**17**	**8·3**
Longitude of Perigee	**266**	**10**	**7·5**
Longitude of Ascending Node	**13**	**53**	**17·7**
Inclination of Orbit to the Ecliptic	**5**	**8**	**47·9**
Mean Motion in Longitude in a Mean Day	**13**	**10**	**35·03**

MOON'S Mean Distance from the EARTH.
- 60·27 of the Earth's **Equatorial Radii.**
- About 238,800 Miles :
- Or $\frac{1}{400}$ of the Distance of the **Earth from the Sun,** which is 95 Millions of Miles.

Ex-centricity of Orbit.................... 0·05491.

DIAMETER of the MOON = $\frac{3}{11}$ of the diameter of **the EARTH.**

VOLUME .... = $\frac{1}{49.3}$ of the volume ditto.

MASS .... = $\frac{1}{81.5}$ of the mass ditto.

DENSITY .... = $\frac{3}{5}$ of the density ditto.

SATELLITES OF JUPITER.

	MEAN DISTANCE. The Semi-axis of Planet=1.	Mean Sidereal Revolution.	MASS. That of the Planet=1.
		days	
1st Satellite	6·049	1·7691	0·000 017
2nd ditto	9·623	3·5512	0·000 023
3rd ditto	15·350	7·1546	0·000 088
4th ditto	26·998	16·6888	0·000 043

SATELLITES OF SATURN.

	MEAN DISTANCE. The Semi-axis of Planet=1.	Mean Sidereal Revolution.
		days
1st Satellite. . .	3·35	·943
2nd ditto . . .	4·30	1·379
3rd ditto . . .	5 28	1·888
4th ditto . . .	6·82	2·739
5th ditto . . .	9·. 2	4·517
6th ditto . . .	22·08	15·945
7th ditto . . .	26 78	21·297
8th ditto . . .	64·36	79·330

SATELLITES OF URANUS.*

	MEAN DISTANCE. The Semi-axis of Planet=1.	Mean Sidereal Revolution.
		days
1st Satellite . .	7·44	2·520
2nd ditto . .	10·37	4·144
3rd ditto . .	13·12	5·893
4th ditto . .	17·01	8·705
5th ditto . .	19·85	10·961
6th ditto . .	22·75	13·463
7th ditto . .	45·51	38·075
8th ditto . .	91·01	107·694

SATELLITE OF NEPTUNE.

MEAN DISTANCE.
About 12 Radii of the Planet.

	days
Mean Sidereal Revolution .	5·8769

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* The Orbits of the Satellites of Uranus are inclined at an angle of about 79° to the **Ecliptic,** and the motions referred to the Ecliptic are *retrograde.*

A TABLE for the easy EXTRACTION of the ROOTS of PERFECT CUBE NUMBERS, not exceeding nine DIGITS.

The following Table affords a short and easy method of extracting the roots of numbers which are perfect cubes. It is of no real use, but is of some curiosity, as this, or some equivalent to it, enabled the American Calculating Boy as he was called, some thirty years ago, to astonish the Londoners by extracting the cube roots of numbers as far as nine digits almost instantly, and apparently by a mere mental operation. The principle is found in a disquisition of M. Rallier des Ourmes,

I.		II.		III.		IV.		V.	
CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.
01	01			03	87				
11	71	12	08 or 58	13	17	04	34 or 84		
21	41			23	47				
31	11	32	18 or 68	33	77	24	24 or 74	25	05 – 25 45 65 – 85
41	81			43	07				
51	51	52	28 or 78	53	37	44	14 or 64		
61	21			63	67			75	15 – 35 55 75 – 95
71	91	72	38 or 88	73	97	64	04 or 54		
81	61			83	27				
91	31	92	48 or 98	93	57	84	94 or 44		

VI.		VII.		VIII.		IX.		CUBES OF NATURAL NUMBERS.	
CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.	CUBES.	ROOTS.
		07	43			09	69	1	1
16	06 or 56	17	73	08	02 or 52	19	39	8	2
		27	03			29	09	27	3
36	96 or 46	37	33	28	12 or 62	39	79	64	4
		47	63			49	49	125	5
56	86 or 36	57	93	48	22 or 72	59	19	216	6
		67	23			69	89	343	7
76	76 or 26	77	53	68	32 or 82	79	59	512	8
		87	83			89	29	729	9
96	66 or 16	97	13	88	42 or 92	99	99	1000	10

published long ago in the 'Académie des Sciences,'* and it is this—that in every perfect cube number, from the two last digits of the cube may always be found the two last digits of the root—with however some ambiguities in the cases where the cube either ends with 5 or with an even number. Every one knows that the first digit of the root is readily ascertained (where the cube exceeds six digits) by the number of millions in the cube. Therefore where the number of digits in the cube does not exceed nine, the root is easily found by the Table. Where the number of digits in the cube does not exceed six, there is no difficulty or ambiguity at all in any case.

Take as an example: the perfect cube 182284263. Here the cube of the natural number 5, viz. 125, is the one next below 182, the number of millions. And by the Table the cube ending 63 (see column III.) has a root ending 67. The answer therefore is 567. Again, to take an ambiguous case: cube 379503424. Here 343 is next below 379, the number of millions; therefore the first digit is 7. And on the Table (see column IV.) the cube ending 24 gives as the root $\overbrace{\text{24 or 74}}$; the answer is either 724 or 774. We adopt the first, because 379, the number of millions, does not greatly exceed 343. Had the number been 479, we ought to have taken the last. The greatest difficulty, but not an insuperable one,† is in the case of cubes ending with 5.

The late Professor Woodhouse, after his attention had been directed to M. Rallier des Ourmes' dissertation by Mr. Baron Alderson, (then a young Barrister, who believed that it contained in substance a discovery of the American Boy's method of proceeding,) embodied the results of the Frenchman's calculations in this Tabular form, and thus made the matter quite simple. The test was afterwards applied, and the clever performance reduced to its proper limits. The supposed almost miraculous capacity of the Boy was however put an end to by the experiments.

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* M. Rallier des Ourmes was Honorary Counsellor of the Presidial Court of Rennes. His disquisition is published in the 5th vol. of the Foreign Mémoires of the Paris Académie des Sciences, and it is entitled 'A new Method of Division when the Dividend is the Multiple of the Divisor and may therefore be divided without a Remainder, and for the Extraction of Roots when the Power is perfect.'—See Euler's Algebra, vol. ii. p. 497, note 3.

† In this ambiguous case the following rule will facilitate the calculation:

If the cube ends with 625, and the first figure of the root as shown by the number of millions be odd, then the choice is to be made between 05, 45 and 85 only.

If it ends with 125, then between 65 and 25.

If the first figure of the root be even, the reverse is the case.

A similar rule applies to the case of the cube ending 75:

If the cube ends with 875, and the first figure of the root be odd, the choice is between 15, 55 and 95 only. If it ends with 375, then between 35 and 75 only.

And if the first figure of the root be even, the reverse is the case.

In like manner, by taking the three last digits of the cube into consideration, the ambiguity in the roots ending with even numbers would wholly vanish; but the Table would become long and complicated, and these ambiguities do not present any real difficulty in practice.

THE NEW

SUCCESSION

AND

LEGACY DUTY TABLES,

UNDER THE AUTHORITY OF

16 & 17 VICT. CAP. 51.

NEW SUCCESSION AND LEGACY DUTY.

TABLE I.

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from **1** to **90** Years of Age.

TABLE II.

Showing the DUTIES payable on SUCCESSIONS, LEGACIES, ANNUITIES, RESIDUES, &c. under the Statute 16 & 17 Vict. c. 51.

TABLE III.

Showing the Amount of ANNUAL INCOME arising from RESIDUE, &c. calculated at **4** ℔ Cent., being the rate at which it is estimated at the Legacy Duty Office.

TABLE IV.

Showing the AMOUNTS of SUCCESSIONS, LEGACIES, ANNUITIES, RESIDUES, &c. which produce each progressive PENNY in a Shilling of Duty at the Several Rates fixed by 16 & 17 Vict. c. 51.

TABLE V.

Showing the Values of an ANNUITY of £100 per Annum, for any Number of Years not exceeding **95**, according to the Table in 16 & 17 Vict. c. 51.

MR. GLADSTONE'S "SUCCESSION DUTY ACT, 1853."

Passed 4th August, 1853. 16 & 17 Vict. cap. 51.

Clause X. THE SCALE OF DUTIES payable under this Act is the same as that fixed by 55 Geo. III. c. 184, according to the relationship of the party, viz.:

If Child of the Deceased, or any Descendant of a Child of the Deceased, or the Father or Mother or any lineal Ancestor of the Deceased	1 ℘ Cent.
If Brother or Sister of the Deceased, or any Descendant of a Brother or Sister of the Deceased	3 ℘ Cent.
If Brother or Sister of the Father or Mother of the Deceased, or any Descendant of a Brother or Sister of the Father or Mother of the Deceased	5 ℘ Cent.
If Brother or Sister of a Grandfather or Grandmother of the Deceased, or any Descendant of a Brother or Sister of a Grandfather or Grandmother of the Deceased .	6 ℘ Cent.
If the Party be in any other Degree of Collateral Consanguinity to the Deceased, or a Stranger in Blood to the Deceased	10 ℘ Cent.*

XI. When a Succession devolves or a Legacy is given to either a Husband or Wife, the amount of Duty is to be calculated according to the rate payable by the one who is the nearest relation.

XVI. A Succession subject to Trusts for charitable or public purposes is chargeable with Duty at the rate of 10 per cent. on the amount or value of such Property.

XIX. Leaseholds of every denomination are liable to Duty under the Succession Duty Act, and no longer under the Legacy Duty Acts.

XXI. The Interest of every Successor in Real Property is considered to be the Value of an Annuity, equal to the current value of such Property, during the residue of his life, or for any less period during which he shall be entitled thereto.

The Duty is to be paid by 8 equal Half-yearly Instalments, to commence at the end of 12 months from the date of becoming so entitled to the beneficial enjoyment.

XXXI. Cancels the Tables in the Legacy Duty Act 36 Geo. III. cap. 52, and directs that the Calculations be made by the Tables annexed to this Act.

XL. The Duty may be paid in advance, and Discount allowed at the rate of 4 per cent. per annum.

LIV. The commencement of this Act to date from 19th May, 1853.

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* The following appear to be the EXEMPTIONS.

Husband or Wife of the Deceased, } *by Clause* 21 *of* 36 Geo. III. cap. 52.
The Royal Family, }

And certain Specific Legacies, given to Bodies Corporate or other Public Bodies, exempted from Duty by 39 Geo. III. c. 73. See Schedule, 55 Geo. III. cap. 184.

Also by the 18*th Clause of* 16 & 17 Vict. c. 51, *when the whole of the Successions are under* £100; *or when each individual Succession is under* £20, *as in the Legacy Duty Act.* See also 2nd Clause, 36 Geo. III. cap. 52.

SUCCESSION AND LEGACY DUTY—TABLE I.

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age 1.			VALUE of ANNUITY. Age 2.			VALUE of ANNUITY. Age 3.			VALUE of ANNUITY. Age 4.			VALUE of ANNUITY. Age 5.		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	19	0¾	–	19	2¼	–	19	3	–	19	3¼	–	19	3
–	5	4	15	3¾	4	15	11¼	4	16	3¾	4	16	5¼	4	16	4
–	10	9	10	7¾	9	11	10¾	9	12	7½	9	12	10½	9	12	8¼
1	0	19	1	3¾	19	3	9¾	19	5	3¼	19	5	9	19	5	4½
2	0	38	2	7¾	38	7	7½	38	10	6½	38	11	6	38	10	9¼
3	0	57	3	11¾	57	11	5½	57	15	10	57	17	3¼	57	16	2
4	0	76	5	3¾	76	15	3¼	77	1	1¼	77	3	0¼	77	1	6¾
5	0	95	6	7¾	95	19	1	96	6	4¾	96	8	9½	96	6	11½
6	0	114	7	11¾	115	2	11	115	11	8	115	14	6½	115	12	4¼
7	0	133	9	3½	134	6	8¾	134	16	11½	135	0	3¾	134	17	9
8	0	152	10	7½	153	10	6½	154	2	2¾	154	6	0¾	154	3	1¾
9	0	171	11	11½	172	14	4½	173	7	6	173	11	10	173	8	6½
10	0	190	13	3½	191	18	2¼	192	12	9½	192	17	7	192	13	11¼
20	0	381	6	7	383	16	4¾	385	5	7	385	15	2¼	385	7	10¾
30	0	571	19	10¾	575	14	7	577	18	4¾	578	12	9½	578	1	10
40	0	762	13	2¼	767	12	9½	770	11	2¼	771	10	4¾	770	15	9½
50	0	953	6	6	959	11	0	963	4	0	964	8	0	963	9	9
60	0	1143	19	9½	1151	9	2¼	1155	16	9½	1157	5	7	1156	3	8¼
70	0	1334	13	1	1343	7	4¾	1348	9	7	1350	3	2¼	1348	17	7¾
80	0	1525	6	4¾	1535	5	7	1541	2	4¾	1543	0	9½	1541	11	7
90	0	1715	19	8¼	1727	3	9½	1733	15	2¼	1735	18	4¾	1734	5	6½
100	0	1906	13	0	1919	2	0	1926	8	0	1928	16	0	1926	19	6
1000	0	£19066. 10s.			£19191			£19264			£19288			£19269. 15s.		

		Age 6.			Age 7.			Age 8.			Age 9.			Age 10.		
–	1	–	19	2½	–	19	1½	–	19	0¼	–	18	10¾	–	18	9¼
–	5	4	16	0¾	4	15	7¾	4	15	1½	4	14	6½	4	13	10¾
–	10	9	12	1¾	9	11	3¾	9	10	3¼	9	9	1	9	7	9¾
1	0	19	4	3¾	19	2	7½	19	0	6¾	18	18	2¼	18	15	7½
2	0	38	8	7½	38	5	3¼	38	1	1½	37	16	4½	37	11	3
3	0	57	12	11½	57	7	11	57	1	8¾	56	14	7	56	6	10½
4	0	76	17	3¼	76	10	6¾	76	2	3	75	12	9¼	75	2	6
5	0	96	1	7	95	13	2½	95	2	9¾	94	10	11½	93	18	1¾
6	0	115	5	11	114	15	10¼	114	3	4½	113	9	2	112	13	9¼
7	0	134	10	2¾	133	18	6	133	3	11¼	132	7	4¼	131	9	4¾
8	0	153	14	6½	153	1	1¾	152	4	6	151	5	6½	150	5	0¼
9	0	172	18	10½	172	3	9½	171	5	1	170	3	9	169	0	8
10	0	192	3	2¼	191	6	5¼	190	5	7¾	189	1	11¼	187	16	3½
20	0	384	6	4¾	382	12	10¾	380	11	3½	378	3	10¾	375	12	7
30	0	576	9	7	573	19	4	570	16	11¼	567	5	10	563	8	10¾
40	0	768	12	9½	765	5	9½	761	2	7	756	7	9½	751	5	2¼
50	0	960	16	0	956	12	3	951	8	3	945	9	9	939	1	6
60	0	1152	19	2¼	1147	18	8¼	1141	13	10¾	1134	11	8¼	1126	17	9½
70	0	1345	2	4¾	1339	5	1¾	1331	19	6½	1323	13	7¾	1314	14	1
80	0	1537	5	7	1530	11	7	1522	5	2¼	1512	15	7	1502	10	4¾
90	0	1729	8	9½	1721	18	0½	1712	10	10	1701	17	6½	1690	6	8¼
100	0	1921	12	0	1913	4	6	1902	16	6	1890	19	6	1878	3	0
1000	0	£19216			£19132. 5s.			£19028. 5s.			£18909. 15s.			£18781. 10s.		

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age 11.			VALUE of ANNUITY. Age 12.			VALUE of ANNUITY. Age 13.			VALUE of ANNUITY. Age 14.			VALUE of ANNUITY. Age 15.		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	18	7½	–	18	5¾	–	18	4	–	18	2	–	18	0
–	5	4	13	2½	4	12	5¾	4	11	8¼	4	10	10¼	4	10	0¼
–	10	9	6	5	9	4	11½	9	3	4½	9	1	8¾	9	0	0½
1	0	18	12	10¼	18	9	11	18	6	9¼	18	3	5½	18	0	1
2	0	37	5	8¾	36	19	10	36	13	6¾	36	6	11¼	36	0	2
3	0	55	18	7¼	55	9	9	55	0	4¼	54	10	5	54	0	3
4	0	74	11	5¾	73	19	8	73	7	1½	72	13	10¾	72	0	4
5	0	93	4	4	92	9	7	91	13	11	90	17	4½	90	0	5
6	0	111	17	2½	110	19	6	110	0	8½	109	0	10	108	0	6
7	0	130	10	1	129	9	5¼	128	7	5¾	127	4	3¾	126	0	7
8	0	149	2	11½	147	19	4¼	146	14	3¼	145	7	9½	144	0	8
9	0	167	15	9¾	166	9	3¼	165	1	0¾	163	11	3¼	162	0	9
10	0	186	8	8¼	184	19	2¼	183	7	10	181	14	9	180	0	10
20	0	372	17	4¾	369	18	4¾	366	15	8¼	363	9	6	360	1	8¼
30	0	559	6	1	554	17	7	550	3	6½	545	4	3	540	2	6½
40	0	745	14	9½	739	16	9½	733	11	4¾	726	19	0	720	3	4¾
50	0	932	3	6	924	16	0	916	19	3	908	13	9	900	4	3
60	0	1118	12	2¼	1109	15	2¼	1100	7	1	1090	8	6	1080	5	1
70	0	1305	0	10¾	1294	14	4¾	1283	14	11¼	1272	3	3	1260	5	11¼
80	0	1491	9	7	1479	13	7	1467	2	9½	1453	18	0	1440	6	9½
90	0	1677	18	3½	1664	12	9½	1650	10	7¾	1635	12	9	1620	7	7¾
100	0	1864	7	0	1849	12	0	1833	18	6	1817	7	6	1800	8	6
1000	0	£18643. 10s.			£18496			£18339. 5s.			£18173. 15s.			£18004. 5s.		

		Age 16.			Age 17.			Age 18.			Age 19.			Age 20.		
–	1	–	17	10	–	17	8	–	17	6¼	–	17	4¾	–	17	3½
–	5	4	9	2	4	8	4½	4	7	7¾	4	7	0¼	4	6	5½
–	10	8	18	4¼	8	16	9¼	8	15	3¾	8	14	0½	8	12	11¼
1	0	17	16	8¾	17	13	6½	17	10	7¾	17	8	1¼	17	5	10½
2	0	35	13	5½	35	7	1¼	35	1	3½	34	16	2½	34	11	9¼
3	0	53	10	2¼	53	0	8	52	11	11½	52	4	3¾	51	17	8
4	0	71	6	11	70	14	2¾	70	2	7¼	69	12	5¼	69	3	6¾
5	0	89	3	7¾	88	7	9½	87	13	3¼	87	0	6½	86	9	5½
6	0	107	0	4½	106	1	4¼	105	3	11	104	8	7¾	103	15	4¼
7	0	124	17	1¼	123	14	11	122	14	7	121	16	9	121	1	3
8	0	142	13	10	141	8	5¾	140	5	2¾	139	4	10½	138	7	1¾
9	0	160	10	6¾	159	2	0¼	157	15	10½	156	12	11¾	155	13	0½
10	0	178	7	3½	176	15	7	175	6	6½	174	1	1	172	18	11¼
20	0	356	14	7	353	11	2¼	350	13	1	348	2	2¼	345	17	10¾
30	0	535	1	10¾	530	6	9½	525	19	7¾	522	3	3½	518	16	10
40	0	713	9	2¼	707	2	4¾	701	6	2¼	696	4	4¾	691	15	9½
50	0	891	16	6	883	18	0	876	12	9	870	5	6	864	14	9
60	0	1070	3	9½	1060	13	7	1051	19	3½	1044	6	7	1037	13	8¼
70	0	1248	11	1	1237	9	2¼	1227	5	10	1218	7	8¼	1210	12	7¾
80	0	1426	18	4¾	1414	4	9½	1402	12	4¾	1392	8	9½	1383	11	7
90	0	1605	5	8¼	1591	0	4¾	1577	18	11¼	1566	9	10¾	1556	10	6½
100	0	1783	13	0	1767	16	0	1753	5	6	1740	11	0	1729	9	6
1000	0	£17836. 10s.			£17678			£17532. 15s.			£17405. 10s.			£17294		

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age 21.			VALUE of ANNUITY. Age 22.			VALUE of ANNUITY. Age 23.			VALUE of ANNUITY. Age 24.			VALUE of ANNUITY. Age 25.		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
-	1	-	17	2¼	-	17	1½	-	17	0¾	-	17	0	-	16	11¼
-	5	4	5	11¾	4	5	7¾	4	5	4	4	5	0¼	4	4	8¼
-	10	8	11	11¾	8	11	3½	8	10	8	8	10	0½	8	9	4¾
1	0	17	3	11½	17	2	7¼	17	1	4¼	17	0	1¼	16	18	9½
2	0	34	7	11¼	34	5	2½	34	2	8¾	34	0	2¾	33	17	7
3	0	51	11	10¾	51	7	9¾	51	4	1	51	0	4	50	16	4¾
4	0	68	15	10½	68	10	5¼	68	5	5½	68	0	5½	67	15	2¼
5	0	85	19	10	85	13	0½	85	6	9¾	85	0	6¾	84	14	0
6	0	103	3	9¾	102	15	7¾	102	8	2¼	102	0	8¼	101	12	9½
7	0	120	7	9¼	119	18	3	119	9	6½	119	0	9½	118	11	7
8	0	137	11	9	137	0	10½	136	10	11	136	0	11	135	10	4¾
9	0	154	15	8¾	154	3	5¾	153	12	3¼	153	1	0¼	152	9	2¼
10	0	171	19	8¼	171	6	1	170	13	7¾	170	1	1¾	169	8	0
20	0	343	19	4¾	342	12	2¼	341	7	3½	340	2	3½	338	16	0
30	0	515	19	1	513	18	3½	512	0	11¼	510	3	5¼	508	4	0
40	0	687	18	9½	685	4	4¾	682	14	7	680	4	7	677	12	0
50	0	859	18	6	856	10	6	853	8	3	850	5	9	847	0	0
60	0	1031	18	2¼	1027	16	7	1024	1	10¾	1020	6	10¾	1016	8	0
70	0	1203	17	10¾	1199	2	8¼	1194	15	6½	1190	8	0½	1185	16	0
80	0	1375	17	7	1370	8	9½	1365	9	2¼	1360	9	2¼	1355	4	0
90	0	1547	17	3½	1541	14	10¾	1536	2	10	1530	10	4	1524	12	0
100	0	1719	17	0	1713	1	0	1706	16	6	1700	11	6	1694	0	0
1000	0	£17198. 10*s*.			£17130. 10*s*.			£17068. 5*s*.			£17005. 15*s*.			£16940		

		Age 26.			Age 27.			Age 28.			Age 29.			Age 30.		
-	1	-	16	10¼	-	16	9¼	-	16	8	-	16	6½	-	16	5¼
-	5	4	4	4	4	3	10¼	4	3	4	4	2	9½	4	2	2½
-	10	8	8	8	8	7	8½	8	6	8¼	8	5	7¼	8	4	5¼
1	0	16	17	4	16	15	5¼	16	13	4¾	16	11	2½	16	8	10½
2	0	33	14	8¼	33	10	10¾	33	6	9¾	33	2	5	32	17	9
3	0	50	12	0¼	50	6	4¼	50	0	2¾	49	13	7½	49	6	7½
4	0	67	9	4½	67	1	9¾	66	13	7½	66	4	10	65	15	6
5	0	84	6	8½	83	17	3¼	83	7	0½	82	16	0½	82	4	4½
6	0	101	4	0¾	100	12	8¾	100	0	5½	99	7	3	98	13	3
7	0	118	1	4¾	117	8	2	116	13	10¼	115	18	5½	115	2	1½
8	0	134	18	9	134	3	7½	133	7	3¼	132	9	8	131	11	0
9	0	151	16	1¼	150	19	1	150	0	8¼	149	0	10½	147	19	10½
10	0	168	13	5¼	167	14	6½	166	14	1	165	12	1	164	8	9
20	0	337	6	10¾	335	9	1	333	8	2¼	331	4	2¼	328	17	6
30	0	506	0	4	503	3	7¾	500	2	3½	496	16	3½	493	6	3
40	0	674	13	9½	670	18	2¼	666	16	4¾	662	8	4¾	657	15	0
50	0	843	7	3	838	12	9	833	10	6	828	0	6	822	3	9
60	0	1012	0	8¼	1006	7	3½	1000	4	7	993	12	7	986	12	6
70	0	1180	14	1¾	1174	1	10	1166	18	8¼	1159	4	8¼	1151	1	3
80	0	1349	7	7	1341	16	4¾	1333	12	9½	1324	16	9½	1315	10	0
90	0	1518	1	0½	1509	10	11¼	1500	6	10¾	1490	8	10¾	1479	18	9
100	0	1686	14	6	1677	5	6	1667	1	0	1656	1	0	1644	7	6
1000	0	£16867. 5*s*.			£16772. 15*s*.			£16670. 10*s*.			£16560. 10*s*.			£16443. 15*s*.		

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age **31.**			VALUE of ANNUITY. Age **32.**			VALUE of ANNUITY. Age **33.**			VALUE of ANNUITY. Age **34.**			VALUE of ANNUITY. Age **35.**		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	16	3¾	–	16	2¼	–	16	0½	–	15	10¾	–	15	8¾
–	5	4	1	7	4	0	11¼	4	0	3	3	19	6¼	3	18	8¾
–	10	8	3	2¼	8	1	10¾	8	0	6	7	19	0½	7	17	5¾
1	0	16	6	4¾	16	3	9½	16	1	0¼	15	18	1	15	14	11½
2	0	32	12	9½	32	7	7¼	32	2	0¾	31	16	2¼	31	9	11¼
3	0	48	19	2¼	48	11	4¾	48	3	1¼	47	14	3¼	47	4	11
4	0	65	5	7	64	15	2½	64	4	1¾	63	12	4½	62	19	10¾
5	0	81	12	0	80	19	0¼	80	5	2¼	79	10	5½	78	14	10½
6	0	97	18	4¾	97	2	9¾	96	6	2¾	95	8	6¾	94	9	10
7	0	114	4	9½	113	6	7½	112	7	3¼	111	6	7¾	110	4	9¾
8	0	130	11	2¼	129	10	5¼	128	8	3¾	127	4	9	125	19	9½
9	0	146	17	7	145	14	2¾	144	9	4¼	143	2	10¼	141	14	9¼
10	0	163	4	0	161	18	0½	160	10	4¾	159	0	11¼	157	9	9
20	0	326	8	0	323	16	1	321	0	9½	318	1	10¾	314	19	6
30	0	489	12	0	485	14	1¾	481	11	2¼	477	2	10	472	9	3
40	0	652	16	0	647	12	2¼	642	1	7	636	3	9½	629	19	0
50	0	816	0	0	809	10	3	802	12	0	795	4	9	787	8	9
60	0	979	4	0	971	8	3½	963	2	4¾	954	5	8¼	944	18	6
70	0	1142	8	0	1133	6	4	1123	12	9½	1113	6	7¾	1102	8	3
80	0	1305	12	0	1295	4	4¾	1284	3	2¼	1272	7	7	1259	18	0
90	0	1468	16	0	1457	2	5¼	1444	13	7	1431	8	6½	1417	7	9
100	0	1632	0	0	1619	0	6	1605	4	0	1590	9	6	1574	17	6
1000	0	£16320			£16190. 5*s.*			£16052			£15904. 15*s.*			£15748. 15*s.*		

		Age **36.**			Age **37.**			Age **38.**			Age **39.**			Age **40.**		
–	1	–	15	7	–	15	4¾	–	15	2¾	–	15	0½	–	14	10½
–	5	3	17	11	3	17	0¾	3	16	2¼	3	15	3½	3	14	4½
–	10	7	15	10	7	14	1¾	7	12	4¾	7	10	7¼	7	8	9
1	0	15	11	8¼	15	8	3½	15	4	9½	15	1	2½	14	17	6
2	0	31	3	4½	30	16	7¼	30	9	7	30	2	5	29	15	0
3	0	46	15	1	46	4	10¾	45	14	4¾	45	3	7½	44	12	6
4	0	62	6	9¼	61	13	2½	60	19	2¼	60	4	10¼	59	10	0
5	0	77	18	5½	77	1	6¼	76	4	0	75	6	0¾	74	7	6
6	0	93	10	2	92	9	9¾	91	8	9½	90	7	3¼	89	5	0
7	0	109	1	10¼	107	18	1½	106	13	7	105	8	6	104	2	6
8	0	124	13	6½	123	6	5¼	121	18	4¾	120	9	8½	119	0	0
9	0	140	5	3	138	14	8¾	137	3	2¼	135	10	11	133	17	6
10	0	155	16	11¼	154	3	0½	152	8	0	150	12	1¾	148	15	0
20	0	311	13	10¾	308	6	1	304	16	0	301	4	3½	297	10	0
30	0	467	10	10	462	9	1¾	457	4	0	451	16	5¼	446	5	0
40	0	623	7	9½	616	12	2¼	609	12	0	602	8	7	595	0	0
50	0	779	4	9	770	15	3	762	0	0	753	0	9	743	15	0
60	0	935	1	8¼	924	18	3½	914	8	0	903	12	10¾	892	10	0
70	0	1090	18	7¾	1079	1	4	1066	16	0	1054	5	0½	1041	5	0
80	0	1246	15	7	1233	4	4¾	1219	4	0	1204	17	2¼	1190	0	0
90	0	1402	12	6½	1387	7	5¼	1371	12	0	1355	9	4	1338	15	0
100	0	1558	9	6	1541	10	6	1524	0	0	1506	1	6	1487	10	0
1000	0	£15584. 15*s.*			£15415. 5*s.*			£15240			£15060. 15*s.*			£14875		

Value of ANNUITIES chargeable with DUTY, calculated accordin the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCE and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.	VALUE of ANNUITY. Age **41**.	VALUE of ANNUITY. Age **42**.	VALUE of ANNUITY. Age **43**.	VALUE of ANNUITY. Age **44**.	VALU ANNU Age
£ s.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£.
– 1	– 14 8	– 14 5½	– 14 3	– 14 0¼	– 1
– 5	3 13 4¾	3 12 4½	3 11 3½	3 10 2	3
– 10	7 6 9¾	7 4 9	7 2 7¼	7 0 4	6 1
1 0	14 13 7½	14 9 6	14 5 2½	14 0 8¼	13 1
2 0	29 7 3¼	28 19 0¼	28 10 5¼	28 1 4¾	27 1
3 0	44 0 11	43 8 6½	42 15 7¾	42 2 1	41
4 0	58 14 6½	57 18 0½	57 0 10½	56 2 9½	55
5 0	73 8 2¼	72 7 6¾	71 6 1	70 3 6	68 1
6 0	88 1 10	86 17 1	85 11 3¾	84 4 2¼	82 1
7 0	102 15 5¾	101 6 7¼	99 16 6¼	98 4 10¾	96 1
8 0	117 9 1¼	115 16 1¼	114 1 9	112 5 7	110
9 0	132 2 9	130 5 7½	128 6 11¾	126 6 3½	124
10 0	146 16 4¾	144 15 1¾	142 12 2¼	140 7 0	137 1
20 0	293 12 9½	289 10 3½	285 4 4¾	280 14 0	275 1
30 0	440 9 2¼	434 5 5¼	427 16 7	421 1 0	413 1
40 0	587 5 7	579 0 7	570 8 9½	561 8 0	551 1
50 0	734 2 0	723 15 9	713 1 0	701 15 0	689 1
60 0	880 18 4¾	868 10 10¾	855 13 2¼	842 2 0	827 1
70 0	1027 14 9½	1013 6 0½	998 5 4¾	982 9 0	965 1
80 0	1174 11 2¼	1158 1 2¼	1140 17 7	1122 16 0	1103 1
90 0	1321 7 7	1302 16 4	1283 9 9½	1263 3 0	1241 1
100 0	1468 4 0	1447 11 6	1426 2 0	1403 10 0	1379 1
1000 0	£ 14682	£ 14475. 15*s.*	£ 14261	£ 14035	£ 1379

	Age **46**.	Age **47**.	Age **48**.	Age **49**.	Age
– 1	– 13 6½	– 13 3¼	– 13 0	– 12 8½	– 1
– 5	3 7 8¾	3 6 4¾	3 5 0¼	3 3 7	3
– 10	6 15 5¾	6 12 9¾	6 10 0½	6 7 2¼	6
1 0	13 10 11½	13 5 7½	13 0 1	12 14 4½	12
2 0	27 1 11	26 11 3	26 0 2¼	25 8 9¼	24 1
3 0	40 12 10½	39 16 10½	39 0 3¼	38 3 2	37
4 0	54 3 10¼	53 2 6	52 0 4½	50 17 6¾	49 1
5 0	67 14 9¾	66 8 1½	65 0 5½	63 11 11½	62
6 0	81 5 9¼	79 13 9	78 0 6¾	76 6 4¼	74 1
7 0	94 16 9	92 19 4½	91 0 7¾	89 0 9	87
8 0	108 7 8½	106 5 0	104 0 9	101 15 1¾	99
9 0	121 18 8	119 10 7½	117 0 10¼	114 9 6½	111 1
10 0	135 9 7¾	132 16 3	130 0 11¼	127 3 11¼	124
20 0	270 19 3½	265 12 6	260 1 10¾	254 7 10¾	248 1
30 0	406 8 11¼	398 8 9	390 2 10	381 11 10	372 1
40 0	541 18 7	531 5 0	520 3 9½	508 15 9½	497
50 0	677 8 3	664 1 3	650 4 9	635 19 9	621
60 0	812 17 10¾	796 17 6	780 5 8¼	763 3 8¼	745 1
70 0	948 7 6½	929 13 9	910 6 7¾	890 7 7¾	870
80 0	1083 17 2¼	1062 10 0	1040 7 7	1017 11 7	994
90 0	1219 6 10	1195 6 3	1170 8 6½	1144 15 6½	1118 1
100 0	1354 16 6	1328 2 6	1300 9 6	1271 19 6	1242 1
1000 0	£ 13548. 5*s.*	£ 13281. 5*s.*	£ 13004. 15*s.*	£ 12719. 15*s.*	£ 1242

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.

AMOUNT of ANNUITY.	VALUE of ANNUITY. Age **51**.	VALUE of ANNUITY. Age **52**.	VALUE of ANNUITY. Age **53**.	VALUE of ANNUITY. Age **54**.	VALUE of ANNUITY. Age **55**.
£. s.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
– 1	– 12 1½	– 11 10¼	– 11 6¾	– 11 3½	– 11 0¼
– 5	3 0 8¼	2 19 3¼	2 17 10½	2 16 6¼	2 15 2¼
– 10	6 1 4½	5 18 6¾	5 15 9¼	5 13 0¾	5 10 4½
1 0	12 2 9	11 17 1½	11 11 6¾	11 6 1½	11 0 9¼
2 0	24 5 6¼	23 14 3¼	23 3 1¾	22 12 3	22 1 6½
3 0	36 8 3½	35 11 5	34 14 8½	33 18 4½	33 2 4
4 0	48 11 0¾	47 8 6½	46 6 3½	45 4 6	44 3 1¼
5 0	60 13 10	59 5 8¼	57 17 10½	56 10 7¾	55 3 10¾
6 0	72 16 7¼	71 2 10	69 9 5¼	67 16 9¼	66 4 8
7 0	84 19 4½	82 19 11¾	81 1 0¼	79 2 10¾	77 5 5½
8 0	97 2 1¾	94 17 1¼	92 12 7	90 9 0¼	88 6 2¾
9 0	109 4 11	106 14 3	104 4 2	101 15 2	99 7 0
10 0	121 7 8¼	118 11 4¾	115 15 9	113 1 3½	110 7 9½
20 0	242 15 4¾	237 2 9½	231 11 6	226 2 7	220 15 7
30 0	364 3 1	355 14 2¼	347 7 3	339 3 10¾	331 3 4¾
40 0	485 10 9½	474 5 7	463 3 0	452 5 2¼	441 11 2¼
50 0	606 18 6	592 17 0	578 18 9	565 6 6	551 19 0
60 0	728 6 2¼	711 8 4¾	694 14 6	678 7 9½	662 6 9½
70 0	849 13 10¾	829 19 9½	810 10 3	791 9 1	772 14 7
80 0	971 1 7	948 11 2¼	926 6 0	904 10 4¾	883 2 4¾
90 0	1092 9 3½	1067 2 7	1042 1 9	1017 11 8¼	993 10 2¼
100 0	1213 17 0	1185 14 0	1157 17 6	1130 13 0	1103 18 0
1000 0	£12138. 10*s.*	£11857	£11578. 15*s.*	£11306. 10*s.*	£11039

	Age **56**.	Age **57**.	Age **58**.	Age **59**.	Age **60**.
– 1	– 10 9¼	– 10 6	– 10 3	– 9 11¾	– 9 8½
– 5	2 13 10½	2 12 6¾	2 11 3¼	2 9 11¼	2 8 7
– 10	5 7 9	5 5 1¾	5 2 6½	4 19 10¾	4 17 2¼
1 0	10 15 6	10 10 3½	10 5 1	9 19 9½	9 14 4¾
2 0	21 11 0	21 0 7	20 10 2¼	19 19 7¼	19 8 9¾
3 0	32 6 6	31 10 10¾	30 15 3½	29 19 5	29 3 2¾
4 0	43 2 0	42 1 2¼	41 0 4¾	39 19 2¾	38 17 7½
5 0	53 17 6	52 11 6	51 5 6	49 19 0½	48 12 0½
6 0	64 13 0	63 1 9½	61 10 7	59 18 10¼	58 6 5½
7 0	75 8 6	73 12 1	71 15 8¼	69 18 8	68 0 10¼
8 0	86 4 0	84 2 4¾	82 0 9½	79 18 5¾	77 15 3¼
9 0	96 19 6	94 12 8¼	92 5 10¾	89 18 3¼	87 9 8¼
10 0	107 15 0	105 3 0	102 11 0	99 18 1	97 4 1
20 0	215 10 0	210 6 0	205 2 0	199 16 2¼	194 8 2¼
30 0	323 5 0	315 9 0	307 13 0	299 14 3½	291 12 3½
40 0	431 0 0	420 12 0	410 4 0	399 12 4¾	388 16 4¾
50 0	538 15 0	525 15 0	512 15 0	499 10 6	486 0 6
60 0	646 10 0	630 18 0	615 6 0	599 8 7	583 4 7
70 0	754 5 0	736 1 0	717 17 0	699 6 8¼	680 8 8¼
80 0	862 0 0	841 4 0	820 8 0	799 4 9½	777 12 9½
90 0	969 15 0	946 7 0	922 19 0	899 2 10¾	874 16 10¾
100 0	1077 10 0	1051 10 0	1025 10 0	999 1 0	972 1 0
1000 0	£10775	£10515	£10255	£9990. 10*s.*	£9720. 10*s.*

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age 61.			VALUE of ANNUITY. Age 62.			VALUE of ANNUITY. Age 63.			VALUE of ANNUITY. Age 64.			VALUE of ANNUITY. Age 65.		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	9	5¼	–	9	1½	–	8	9¾	–	8	6¼	–	8	2½
–	5	2	7	2¼	2	5	8¼	2	4	1¾	2	2	7¼	2	1	0¾
–	10	4	14	4½	4	11	4¾	4	8	3¾	4	5	2¾	4	2	1¾
1	0	9	8	9	9	2	9¾	8	16	7¾	8	10	5¾	8	4	3¾
2	0	18	17	6	18	5	7½	17	13	3¾	17	0	11¾	16	8	7¾
3	0	28	6	3	27	8	5½	26	9	11¾	25	11	5½	24	12	11½
4	0	37	15	0	36	11	3¼	35	6	7½	34	1	11½	32	17	3½
5	0	47	3	9¼	45	14	1	44	3	3½	42	12	5¼	41	1	7½
6	0	56	12	6¼	54	16	11	52	19	11½	51	2	11¼	49	5	11¼
7	0	66	1	3¼	63	19	8¾	61	16	7¼	59	13	5	57	10	3¼
8	0	75	10	0¼	73	2	6½	70	13	3¼	68	3	11	65	14	7
9	0	84	18	9½	82	5	4½	79	9	11¼	76	14	4¾	73	18	11
10	0	94	7	6½	91	8	2¼	88	6	7	85	4	10¾	82	3	3
20	0	188	15	1	182	16	4¾	176	13	2¼	170	9	9½	164	6	6
30	0	283	2	7¾	274	4	7	264	19	9½	255	14	8¼	246	9	9
40	0	377	10	2¼	365	12	9½	353	6	4¾	340	19	7	328	13	0
50	0	471	17	9	457	1	0	441	13	0	426	4	6	410	16	3
60	0	566	5	3½	548	9	2¼	529	19	7	511	9	4¾	492	19	6
70	0	660	12	10	639	17	4¾	618	6	2¼	596	14	3½	575	2	9
80	0	755	0	4¾	731	5	7	706	12	9½	681	19	2¼	657	6	0
90	0	849	7	11¼	822	13	9½	794	19	4¾	767	4	1	739	9	3
100	0	943	15	6	914	2	0	883	6	0	852	9	0	821	12	6
1000	0	£9437. 15s.			£9141			£8833			£8524. 10s.			£8216. 5s.		

		Age 66.			Age 67.			Age 68.			Age 69.			Age 70.		
–	1	–	7	10¾	–	7	7¼	–	7	4	–	7	0½	–	6	9¼
–	5	1	19	6¼	1	18	1	1	16	8	1	15	3	1	13	10¼
–	10	3	19	0¾	3	16	2¼	3	13	4	3	10	6	3	7	8¾
1	0	7	18	1¾	7	12	4½	7	6	8	7	1	0¼	6	15	5¾
2	0	15	16	3½	15	4	9¼	14	13	4¼	14	2	0¾	13	10	11¾
3	0	23	14	5¼	22	17	2	22	0	0½	21	3	1¼	20	6	5½
4	0	31	12	7	30	9	6½	29	6	8¾	28	4	1¾	27	1	11½
5	0	39	10	9	38	1	11¼	36	13	5	35	5	2¼	33	17	5¼
6	0	47	8	10¾	45	14	4	44	0	1¼	42	6	2¾	40	12	11¼
7	0	55	7	0½	53	6	8¾	51	6	9½	49	7	3¼	47	8	5
8	0	63	5	2¼	60	19	1¼	58	13	5¾	56	8	3¾	54	3	11
9	0	71	3	4	68	11	6	66	0	1¾	63	9	4¼	60	19	4¾
10	0	79	1	6	76	3	10¾	73	6	10	70	10	4¾	67	14	10¾
20	0	158	3	0	152	7	9½	146	13	8¼	141	0	9½	135	9	9½
30	0	237	4	6	228	11	8¼	220	0	6½	211	11	2¼	203	4	8¼
40	0	316	6	0	304	15	7	293	7	4¾	282	1	7	270	19	7
50	0	395	7	6	380	19	6	366	14	3	352	12	0	338	14	6
60	0	474	9	0	457	3	4¾	440	1	1	423	2	4¾	406	9	4¾
70	0	553	10	6	533	7	3½	513	7	11¼	493	12	9½	474	4	3½
80	0	632	12	0	609	11	2¼	586	14	9½	564	3	2¼	541	19	2¼
90	0	711	13	6	685	15	1	660	1	7¾	634	13	7	609	14	1
100	0	790	15	0	761	19	0	733	8	6	705	4	0	677	9	0
1000	0	£7907. 10s.			£7619. 10s.			£7334. 5s.			£7052			£6774. 10s.		

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.

AMOUNT of ANNUITY.	VALUE of ANNUITY. Age 71.	VALUE of ANNUITY. Age 72.	VALUE of ANNUITY. Age 73.	VALUE of ANNUITY. Age 74.	VALUE of ANNUITY. Age 75.
£. s.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
– 1	– 6 6	– 6 2¾	– 5 11½	– 5 8¼	– 5 4¾
– 5	1 12 6	1 11 2¼	1 9 10¼	1 8 5¾	1 7 0½
– 10	3 5 0¼	3 2 4¾	2 19 8¾	2 16 11½	2 14 1
1 0	6 10 0¾	6 4 9½	5 19 5½	5 13 11	5 8 2¼
2 0	13 0 1¾	12 9 7	11 18 11¼	11 7 10¼	10 16 4¾
3 0	19 10 2¾	18 14 4½	17 18 5	17 1 9¼	16 4 7¼
4 0	26 0 3¾	24 19 2	23 17 10¾	22 15 8½	21 12 9¾
5 0	32 10 4¾	31 3 11½	29 17 4½	28 9 7¾	27 1 0¼
6 0	39 0 5¾	37 8 9	35 16 10	34 3 6¾	32 9 2¾
7 0	45 10 6½	43 13 6¾	41 16 3¾	39 17 6	37 17 5
8 0	52 0 7½	49 18 4¼	47 15 9½	45 11 5¼	43 5 7½
9 0	58 10 8½	56 3 1¾	53 15 3¼	51 5 4¼	48 13 10
10 0	65 0 9½	62 7 11¼	59 14 9	56 19 3½	54 2 0½
20 0	130 1 7	124 15 10¾	119 9 6	113 18 7	108 4 1
30 0	195 2 4¾	187 3 10	179 4 3	170 17 10¾	162 6 1¾
40 0	260 3 2¼	249 11 9½	238 19 0	227 17 2¼	216 8 2¼
50 0	325 4 0	311 19 9	298 13 9	284 16 6	270 10 3
60 0	390 4 9½	374 7 8¼	358 8 6	341 15 9½	324 12 3½
70 0	455 5 7	436 15 7¾	418 3 3	398 15 1	378 14 4
80 0	520 6 4¾	499 3 7	477 18 0	455 14 4¾	432 16 4¾
90 0	585 7 2¼	561 11 6½	537 12 9	512 13 8¼	486 18 5¼
100 0	650 8 0	623 19 6	597 7 6	569 13 0	541 0 6
1000 0	£6504	£6239. 15*s.*	£5973. 15*s.*	£5696. 10*s.*	£5410. 5*s.*

	Age 76.	Age 77.	Age 78.	Age 79.	Age 80.
– 1	– 5 1¼	– 4 9¼	– 4 5¼	– 4 1¼	– 3 9½
– 5	1 5 6¾	1 3 10½	1 2 2½	1 0 7¼	– 19 0½
– 10	2 11 1¾	2 7 9¼	2 4 5¼	2 1 2¾	1 18 1¼
1 0	5 2 3½	4 15 6¾	4 8 10½	4 2 5¾	3 16 2¾
2 0	10 4 7	9 11 1½	8 17 9¼	8 4 11¾	7 12 5½
3 0	15 6 10½	14 6 8½	13 6 8	12 7 5¾	11 8 8¼
4 0	20 9 2	19 2 3¼	17 15 6¾	16 9 11¾	15 4 11
5 0	25 11 5½	23 17 10	22 4 5½	20 12 5½	19 1 1¾
6 0	30 13 9	28 13 5	26 13 4¼	24 14 11½	22 17 4½
7 0	35 16 0¾	33 8 11¾	31 2 3	28 17 5½	26 13 7¼
8 0	40 18 4¼	38 4 6½	35 11 1¾	32 19 11½	30 9 10
9 0	46 0 7¾	43 0 1½	40 0 0½	37 2 5¼	34 6 0¾
10 0	51 2 11¼	47 15 8¼	44 8 11¼	41 4 11¼	38 2 3½
20 0	102 5 10¾	95 11 4¾	88 17 10¾	82 9 10¾	76 4 7
30 0	153 8 10	143 7 1	133 6 10	123 14 10	114 6 10¾
40 0	204 11 9½	191 2 9½	177 15 9½	164 19 9½	152 9 2¼
50 0	255 14 9	238 18 6	222 4 9	206 4 9	190 11 6
60 0	306 17 8¼	286 14 2¼	266 13 8¼	247 9 8¼	228 13 9½
70 0	358 0 7¾	334 9 10¾	311 2 7¾	288 14 7¾	266 16 1
80 0	409 3 7	382 5 7	355 11 7	329 19 7	304 18 4¾
90 0	460 6 6½	430 1 3½	400 0 6½	371 4 6½	343 0 8¼
100 0	511 9 6	477 17 0	444 9 6	412 9 6	381 3 0
1000 0	£5114. 15*s.*	£4778. 10*s.*	£4444. 15*s.*	£4124. 15*s.*	£3811 [illegible]

Value of ANNUITIES chargeable with DUTY, calculated according to the Table in 16 & 17 Vict. c. 51, from 1 to 90 years of Age.

☞ **The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.**

AMOUNT of ANNUITY.		VALUE of ANNUITY. Age **81.**			VALUE of ANNUITY. Age **82.**			VALUE of ANNUITY. Age **83.**			VALUE of ANNUITY. Age **84.**			VALUE of ANNUITY. Age **85.**		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	3	6	–	3	2½	–	2	11	–	2	7½	–	2	4
–	5	–	17	6¼	–	16	1	–	14	7½	–	13	1¾	–	11	8¾
–	10	1	15	0¾	1	12	2	1	9	3	1	6	3½	1	3	5¾
1	0	3	10	1½	3	4	4	2	18	6	2	12	7¼	2	6	11¾
2	0	7	0	3¼	6	8	8¼	5	17	0	5	5	2¾	4	13	11½
3	0	10	10	5	9	13	0¼	8	15	6	7	17	10¼	7	0	11¼
4	0	14	0	6¾	12	17	4½	11	14	0	10	10	5¾	9	7	11¼
5	0	17	10	8½	16	1	8½	14	12	6	13	3	1	11	14	11
6	0	21	0	10¼	19	6	0¾	17	11	0	15	15	8½	14	1	10¾
7	0	24	11	0	22	10	4¾	20	9	6	18	8	4	16	8	10½
8	0	28	1	1¾	25	14	9	23	8	0	21	0	11½	18	15	10½
9	0	31	11	3½	28	19	1¼	26	6	6	23	13	6¾	21	2	10¼
10	0	35	1	5¼	32	3	5¼	29	5	0	26	6	2¼	23	9	10
20	0	70	2	10¾	64	6	10¾	58	10	0	52	12	4¾	46	19	8¼
30	0	105	4	4	96	10	4	87	15	0	78	18	7	70	9	6½
40	0	140	5	9½	128	13	9½	117	0	0	105	4	9½	93	19	4¾
50	0	175	7	3	160	17	3	146	5	0	131	11	0	117	9	3
60	0	210	8	8¼	193	0	8¼	175	10	0	157	17	2¼	140	19	1
70	0	245	10	1¾	225	4	1¾	204	15	0	184	3	4¾	164	8	11¼
80	0	280	11	7	257	7	7	234	0	0	210	9	7	187	18	9½
90	0	315	13	0½	289	11	0½	263	5	0	236	15	9½	211	8	7¾
100	0	350	14	6	321	14	6	292	10	0	263	2	0	234	18	6
1000	0	£3507. 5*s.*			£3217. 5*s.*			£2925			£2631			£2349. 5*s.*		
		Age **86.**			Age **87.**			Age **88.**			Age **89.**			Age **90.**		
–	1	–	2	0¾	–	1	10	–	1	7¾	–	1	5¾	–	1	4
–	5	–	10	4½	–	9	2½	–	8	2¾	–	7	5	–	6	8
–	10	1	0	9¼	–	18	5¼	–	16	5¾	–	14	10	–	13	4
1	0	2	1	6½	1	16	10¾	1	12	11½	1	9	8	1	6	8¼
2	0	4	3	1¼	3	13	9¾	3	5	11¼	2	19	4	2	13	4½
3	0	6	4	8	5	10	8¾	4	18	11	4	9	0	4	0	0¾
4	0	8	6	2¾	7	7	7¾	6	11	10¾	5	18	8	5	6	9
5	0	10	7	9½	9	4	6¾	8	4	10½	7	8	4	6	13	5¼
6	0	12	9	4¼	11	1	5¾	9	17	10	8	18	0	8	0	1½
7	0	14	10	11	12	18	4¾	11	10	9¾	10	7	8¼	9	6	9¾
8	0	16	12	5¾	14	15	3¾	13	3	9½	11	17	4¼	10	13	6
9	0	18	14	0¼	16	12	2¾	14	16	9¼	13	7	0¼	12	0	2½
10	0	20	15	7	18	9	1¾	16	9	9	14	16	8¼	13	6	10¾
20	0	41	11	2¼	36	18	3½	32	19	6	29	13	4¾	26	13	9½
30	0	62	6	9½	55	7	5¼	49	9	3	44	10	1	40	0	8¼
40	0	83	2	4¾	73	16	7	65	19	0	59	6	9½	53	7	7
50	0	103	18	0	92	5	9	82	8	9	74	3	6	66	14	6
60	0	124	13	7	110	14	10¾	98	18	6	89	0	2¼	80	1	4¾
70	0	145	9	2¼	129	4	0½	115	8	3	103	16	10¾	93	8	3½
80	0	166	4	9½	147	13	2¼	131	18	0	118	13	7	106	15	2¼
90	0	187	0	4¾	166	2	4	148	7	9	133	10	3½	120	2	1
100	0	207	16	0	184	11	6	164	17	6	148	7	0	133	9	0
1000	0	£2078			£1845. 15*s.*			£1648. 15*s.*			£1483. 10*s.*			£1334. 10*s.*		

TABLE showing the DUTIES payable on SUCCESSIONS, LEGACIES, ANNUITIES, RESIDUES, &c. under the Statute 16 & 17 Vict. c. 51.

AMOUNT of SUCCESSION, LEGACY, &c.		AMOUNT of DUTY at 1 ℔ Cent.			AMOUNT of DUTY at 3 ℔ Cent.			AMOUNT of DUTY at 5 ℔ Cent.			AMOUNT of DUTY at 6 ℔ Cent.			AMOUNT of DUTY at 10 ℔ Cent.		
£.	s.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
–	1	–	–	0	–	–	0¼	–	–	0½	–	–	0¾	–	–	1¼
–	2	–	–	0¼	–	–	0¾	–	–	1¼	–	–	1½	–	–	2¼
–	3	–	–	0¼	–	–	1	–	–	1¾	–	–	2	–	–	3½
–	4	–	–	0½	–	–	1½	–	–	2¼	–	–	2¾	–	–	4¾
–	5	–	–	0½	–	–	1¾	–	–	3	–	–	3½	–	–	6
–	10	–	–	1¼	–	–	3½	–	–	6	–	–	7¼	–	1	0
–	15	–	–	1¾	–	–	5¼	–	–	9	–	–	10¾	–	1	6
1	0	–	–	2¼	–	–	7¼	–	1	0	–	1	2¼	–	2	0
2	0	–	–	4¾	–	1	2¼	–	2	0	–	2	4¾	–	4	0
3	0	–	–	7¼	–	1	9½	–	3	0	–	3	7¼	–	6	0
4	0	–	–	9½	–	2	4¾	–	4	0	–	4	9½	–	8	0
5	0	–	1	0	–	3	0	–	5	0	–	6	0	–	10	0
6	0	–	1	2¼	–	3	7¼	–	6	0	–	7	2¼	–	12	0
7	0	–	1	4¾	–	4	2¼	–	7	0	–	8	4¾	–	14	0
8	0	–	1	7¼	–	4	9½	–	8	0	–	9	7¼	–	16	0
9	0	–	1	9½	–	5	4¾	–	9	0	–	10	9½	–	18	0
10	0	–	2	0	–	6	0	–	10	0	–	12	0	1	0	0
20	0	–	4	0	–	12	0	1	0	0	1	4	0	2	0	0
30	0	–	6	0	–	18	0	1	10	0	1	16	0	3	0	0
40	0	–	8	0	1	4	0	2	0	0	2	8	0	4	0	0
50	0	–	10	0	1	10	0	2	10	0	3	0	0	5	0	0
60	0	–	12	0	1	16	0	3	0	0	3	12	0	6	0	0
70	0	–	14	0	2	2	0	3	10	0	4	4	0	7	0	0
80	0	–	16	0	2	8	0	4	0	0	4	16	0	8	0	0
90	0	–	18	0	2	14	0	4	10	0	5	8	0	9	0	0
100	0	1	0	0	3	0	0	5	0	0	6	0	0	10	0	0
200	0	2	0	0	6	0	0	10	0	0	12	0	0	20	0	0
300	0	3	0	0	9	0	9	15	0	0	18	0	0	30	0	0
400	0	4	0	0	12	0	0	20	0	0	24	0	0	40	0	0
500	0	5	0	0	15	0	0	25	0	0	30	0	0	50	0	0
600	0	6	0	0	18	0	0	30	0	0	36	0	0	60	0	0
700	0	7	0	0	21	0	0	35	0	0	42	0	0	70	0	0
800	0	8	0	0	24	0	0	40	0	0	48	0	0	80	0	0
900	0	9	0	0	27	0	0	45	0	0	54	0	0	90	0	0
1000	0	10	0	0	30	0	0	50	0	0	60	0	0	100	0	0
2000	0	20	0	0	60	0	0	100	0	0	120	0	0	200	0	0
3000	0	30	0	0	90	0	0	150	0	0	180	0	0	300	0	0
4000	0	40	0	0	120	0	0	200	0	0	240	0	0	400	0	0
5000	0	50	0	0	150	0	0	250	0	0	300	0	0	500	0	0
6000	0	60	0	0	180	0	0	300	0	0	360	0	0	600	0	0
7000	0	70	0	0	210	0	0	350	0	0	420	0	0	700	0	0
8000	0	80	0	0	240	0	0	400	0	0	480	0	0	800	0	0
9000	0	90	0	0	270	0	0	450	0	0	540	0	0	900	0	0
10000	0	100	0	0	300	0	0	500	0	0	600	0	0	1000	0	0

SUCCESSION AND LEGACY DUTY—TABLE III.

TABLE showing the Amount of ANNUAL INCOME arising from RESIDUE, &c. calculated at **4** ℘ cent., being the rate at which it is estimated at the Legacy Duty Office.

AMOUNT of RESIDUE, &c.	INCOME at **4** ℘ Cent.	AMOUNT of RESIDUE, &c.	INCOME at **4** ℘ Cent.	AMOUNT of RESIDUE, &c.	INCOME at **4** ℘ Cent.
£. s. d.	s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
– 1 –	– 0½	20 – –	0 16 –	2000 – –	80 – –
– 2 –	– 1	30 – –	1 4 –	3000 – –	120 – –
– 3 –	– 1½	40 – –	1 12 –	4000 – –	160 – –
– 4 –	– 2	50 – –	2 0 –	5000 – –	200 – –
– 5 –	– 2¼	60 – –	2 8 –	6000 – –	240 – –
– 10 –	– 4¾	70 – –	2 16 –	7000 – –	280 – –
– 15 –	– 7¼	80 – –	3 4 –	8000 – –	320 – –
1 0 –	– 9½	90 – –	3 12 –	9000 – –	360 – –
2 0 –	1 7¼	100 – –	4 0 –	10000 – –	400 – –
3 0 –	2 4¾	200 – –	8 0 –		
4 0 –	3 2¼	300 – –	12 0 –		
5 0 –	4 0	400 – –	16 0 –		
6 0 –	4 9½	500 – –	20 0 –		
7 0 –	5 7¼	600 – –	24 0 –		
8 0 –	6 4¾	700 – –	28 0 –		
9 0 –	7 2½	800 – –	32 0 –		
10 0 –	8 0	900 – –	36 0 –		
		1000 – –	40 0 –		

SUCCESSION AND LEGACY DUTY—TABLE IV.

TABLE showing the AMOUNTS of SUCCESSIONS, LEGACIES, ANNUITIES, RESIDUES, &c. which produce each progressive PENNY in a Shilling of DUTY at the several Rates fixed by 16 & 17 Vict. c. 51.

☞ It is not the practice of the Legacy Duty Office to charge the Duty on sums which yield less than One Penny of Duty.

AMOUNT of DUTY.	AMOUNTS of SUCCESSIONS, LEGACIES, ANNUITIES, RESIDUES, &c. on which the DUTY in the first column is payable.					AMOUNT of DUTY.
	1 ℘ Cent.	**3** ℘ Cent.	**5** ℘ Cent.	**6** ℘ Cent.	**10** ℘ Cent.	
s. d.	£. s. d.	£. s. d.	£. s. d.	s. d.	s. d.	s. d.
– 1	– 8 4	– 2 9¼	– 1 8	1 4½	– 10	– 1
– 2	– 16 8	– 5 6½	– 3 4	2 9¼	1 8	– 2
– 3	1 5 0	– 8 4	– 5 0	4 2	2 6	– 3
– 4	1 13 4	– 11 1¼	– 6 8	5 6½	3 4	– 4
– 5	2 1 8	– 13 10½	– 8 4	6 11¼	4 2	– 5
– 6	2 10 0	– 16 8	– 10 0	8 4	5 0	– 6
– 7	2 18 4	– 19 5¼	– 11 8	9 8½	5 10	– 7
– 8	3 6 8	1 2 2½	– 13 4	11 1¼	6 8	– 8
– 9	3 15 0	1 5 0	– 15 0	12 6	7 6	– 9
– 10	4 3 4	1 7 9¼	– 16 8	13 10½	8 4	– 10
– 11	4 11 8	1 10 6½	– 18 4	15 3¼	9 2	– 11
1 0	5 0 0	1 13 4	1 0 0	16 8	10 0	1 0

TABLE showing the Values of an ANNUITY of £100 per Annum, for any Number of Years not exceeding 95, according to the Table in 16 & 17 Vict. c. 51.

☞ The Amount of Duty to be paid on the Value shown by this Table may be seen in SUCCESSION and LEGACY DUTY TABLE II.

YEARS.	VALUES.			YEARS.	VALUES.		
	£.	s.	d.		£.	s.	d.
1	96	3	–	49	2134	2	6
2	188	12	–				
3	277	10	–	**50**	2148	4	0
4	362	19	6	51	2161	14	6
5	445	3	6	52	2174	15	0
6	524	4	0	53	2187	5	0
7	600	4	0	54	2199	5	6
8	673	5	0	55	2210	17	0
9	743	10	6	56	2221	19	6
10	811	1	6	57	2232	13	0
11	876	0	6	58	2242	19	0
12	938	10	0	59	2252	16	6
13	998	11	0	**60**	2262	6	6
14	1056	6	0	61	2271	9	6
15	1111	16	6	62	2280	5	6
16	1165	4	6	63	2288	14	6
17	1216	11	0	64	2296	17	0
18	1265	18	6	65	2304	13	0
19	1313	7	6	66	2312	3	6
20	1359	0	6	67	2319	8	0
21	1402	18	0	68	2326	7	0
22	1445	2	0	69	2333	0	6
23	1485	13	6	**70**	2339	9	0
24	1524	13	6	71	2345	12	6
25	1562	4	0	72	2351	11	0
26	1598	5	6	73	2357	5	0
27	1632	19	0	74	2362	15	0
28	1666	6	0	75	2368	0	6
29	1698	7	0	76	2373	2	0
30	1729	4	0	77	2377	19	6
31	1758	16	6	78	2382	13	6
32	1787	7	0	79	2387	4	0
33	1814	15	0	**80**	2391	10	6
34	1841	2	0	81	2395	14	0
35	1866	9	0	82	2399	14	0
36	1890	16	6	83	2403	11	6
37	1914	5	0	84	2407	5	6
38	1936	15	6	85	2410	17	0
39	1958	8	6	86	2414	5	6
40	1979	5	6	87	2417	11	6
41	1999	6	0	88	2420	14	6
42	2018	11	0	89	2423	15	6
43	2037	1	6	**90**	2426	14	6
44	2054	17	6	91	2429	10	6
45	2072	0	0	92	2432	5	0
46	2088	9	0	93	2434	17	0
47	2104	5	6	94	2437	7	0
48	2119	10	0	95	2439	15	6

SUCCESSION DUTY.—EXAMPLE.

To ascertain the amount of Duty payable by a person inheriting an Estate of the Annual Value of £1085; the Inheritor being the Son of the Deceased, and aged 31 years.

By Table I. will be seen the Value of an Annuity of £1085, on a Life aged **31.**

For £1000 – –	£16,320 – –
80 – –	1,305 12 0
5 – –	81 12 0
£1085 – –	£17,707 4 –

The Duty on £17,707. 4*s.*, by Table II., for a Son of the Deceased, at 1 ℘ cent. is as follows:

For £10,000 – –	£100 – –
7,000 – –	70 – –
700 – –	7 – –
7 – –	– 1 4¾
– 4 –	– – 0½
£17,707 4 –	£177 1 5¼

To be paid by 8 Half-yearly Payments of £22. 2*s.* 8*d.*, to commence at the expiration of the first year.

Vide 21st Clause, 16 & 17 Vict. c. 51.

LEGACY DUTY.—EXAMPLE.

To ascertain the amount of Duty on Income, arising from Residue, &c. payable by way of Annuity.

Suppose the amount of Residue, &c. to be £2350, and the person entitled to the Annual Income to be a *Brother* of the Deceased, aged **40.**

The Income would be, by Table III.,

For £2000 – –	£80 – –
300 – –	12 – –
50 – –	2 – –
£2350 – –	£94 – –

The Value of an Annuity for that amount, viz. £94, on the Life of a person aged **40**, is, according to Table I.,

For £90 – –	£1338 15 –
4 – –	59 10 –
£94 – –	£1398 5 –

The Duty on £1398. 5*s.*, by Table II., for a *Brother* of the Deceased, at 3 ℘ cent. is as follows:

For £1000 – –	£30 – –
300 – –	9 – –
90 – –	2 14 –
8 – –	0 4 9½
0 5 –	0 .0 1¾
£1398 5 –	£41 18 11¼

To be paid at the expiration of the first year, or by 4 Annual Payments of £10: 9*s.* 9*d.*

Vide 8th Clause, 36 Geo. III. c. 52.

TABLE VI.

A SECULAR DIARY

For ascertaining the **Day** of the **Week** on which any event took place from the commencement of the **New Style**, 3rd Sept. 1752, which, by adding 11 days, became the 14th Sept. 1752 (*vide* 24 Geo. II. c. 23), up to the present time, and continued forward as far as the year 1900.

TABLE OF YEARS.

	1761	1762	1757	1754	1755	1752	1753
	1767	1773	1763	1765	1766	1758	1759
	1778	1779	1774	1771	1777	1769	1770
	1789	1790	1785	1782	1783	1775	1781
	1795		1791	1793	1794	1786	1787
				1799	1800	1797	1798
	1801	1802	1803	1805	1806	1809	1810
	1807	1813	1814	1811	1817	1815	1821
	1818	1819	1825	1822	1823	1826	1827
Jan.	4	5	6	2	3	7	1
Feb.	7	1	2	5	6	3	4
Mar.	7	1	2	5	6	3	4
April	3	4	5	1	2	6	7
May	5	6	7	3	4	1	2
June	1	2	3	6	7	4	5
July	3	4	5	1	2	6	7
Aug.	6	7	1	4	5	2	3
Sept.	2	3	4	7	1	5	6
Oct.	4	5	6	2	3	7	1
Nov.	7	1	2	5	6	3	4
Dec.	2	3	4	7	1	5	6
	1829	1830	1831	1833	1834	1837	1838
	1835	1841	1842	1839	1845	1843	1849
	1846	1847	1853	1850	1851	1854	1855
	1857	1858	1859	1861	1862	1865	1866
	1863	1869	1870	1867	1873	1871	1877
	1874	1875	1881	1878	1879	1882	1883
	1885	1886	1887	1889	1890	1893	1894
	1891	1897	1898	1895		1899	1900

IN LEAP YEARS, FEBRUARY 29 DAYS.

	1764	1768	1772	1776	1780	1756	1760
	1792	1796				1784	1788
	1804	1808	1812	1816	1820	1824	1828
Jan.	7	5	3	1	6	4	2
Feb.	3	1	6	4	2	7	5
Mar.	4	2	7	5	3	1	6
April	7	5	3	1	6	4	2
May	2	7	5	3	1	6	4
June	5	3	1	6	4	2	7
July	7	5	3	1	6	4	2
Aug.	3	1	6	4	2	7	5
Sept.	6	4	2	7	5	3	1
Oct.	1	6	4	2	7	5	3
Nov.	4	2	7	5	3	1	6
Dec.	6	4	2	7	5	3	1
	1832	1836	1840	1844	1848	1852	1856
	1860	1864	1868	1872	1876	1880	1884
	1888	1892	1896				

TABLE OF THE DAYS OF THE WEEK FOR EACH DAY OF THE MONTH.

	1	2	3	4	5	6	7
Monday	1 8 15 22 29	7 14 21 28	6 13 20 27	5 12 19 26	4 11 18 25	31 3 10 17 24	30 2 9 16 23
Tuesday	2 9 16 23 30	1 8 15 22 29	7 14 21 28	6 13 20 27	5 12 19 26	4 11 18 25	31 3 10 17 24
Wednesday	3 10 17 24 31	2 9 16 23 30	1 8 15 22 29	7 14 21 28	6 13 20 27	5 12 19 26	4 11 18 25
Thursday	4 11 18 25	3 10 17 24 31	2 9 16 23 30	1 8 15 22 29	7 14 21 28	6 13 20 27	5 12 19 26
Friday	5 12 19 26	4 11 18 25	3 10 17 24 31	2 9 16 23 30	1 8 15 22 29	7 14 21 28	6 13 20 27
Saturday	6 13 20 27	5 12 19 26	4 11 18 25	3 10 17 24 31	2 9 16 23 30	1 8 15 22 29	7 14 21 28
Sunday	7 14 21 28	6 13 20 27	5 12 19 26	4 11 18 25	3 10 17 24 31	2 9 16 23 30	1 8 15 22 29

Rule.—To ascertain the day of the week for any given date. Find in the Table of Years, the year sought; opposite the month and in the column in which the year stands, the figure refers to the **Table** on the side, containing the days of the week for each day of that month.

E. G. The Battle of Waterloo was fought on the 18th June, 1815. On what day of the week did that event happen? In the column containing the year 1815, and opposite the month of June, you will find the number 4, and in the **Table of Days** on the side, marked **4**, you will see that the 18th was on a Sunday.

Table VII.

CHRONOLOGY.

COMPARATIVE DATES FROM THE CREATION.

Before Christ.	Julian Period.	Olympiad.		Years of Rome.	Years of Nabonassar.	A. D.	Julian Period.	Years of Rome.
4004	710					1	4714	754
2348	2366					51	4764	804
2000	2714					101	4814	854
1000	3714					201	4914	954
776	3938	I.				301	5014	
753	3961	VI.	4	1		401	5114	
747	3967	VIII.	2	7	1	501	5214	
500	4214	LXX.	1	254	249	601	5314	
300	4414	CXX.	1	454	449	622	5335	
100	4614	CLXX.	1	654	649	Era of		
50	4664	CLXXXII.	3	704	699	the		
B. of Christ	4710	CXCIV.	1	750	745	Hejrah.		

A. D.	Lunar Cycle and Dominical Letter.		Solar Cycle.	Indiction.	Chinese Cycle of 60 Years.		Era of Seleucidæ or of Alexander.	
622	15	C.	15	10	LVI.	19	934	F.
700	9	D. C.	17	13	LVII.	37	1012	F.
1000	1	G. F.	13	13	LXII.	37	1312	T.
1100	17	A. G.	18	8	LXIV.	17	1412	M.
1200	5	B. A.	4	3	LXV.	57	1512	S.
1300	21	C. B.	9	13	LXVII.	37	1612	St.
1400	9	D. C.	14	8	LXIX.	17	1712	F.
1500	25	E. D.	19	3	LXX.	57	1812	Th.
1600	13	F. E.	5	13	LXXII.	37	1912	W.
1700	1	G. F.	10	8	LXXIV.	17	2012	T.
1800	17	A. G.	15	3	LXXV.	57	2112	M.
1820	9	D. C.	16	8	LXXVI.	17	2132	F.
1840	1	G. F.	17	13	LXXVI.	37	2152	T.
1850	11	A.	8	8	LXXVI.	47	2162	S.
1900	5	B. A.	1	13	LXXVII.	37	2212	S.
2000	21	C. B.	6	8	LXXIX.	17	2312	F.

A. D.	Era of Hejirah.	Era of Yesdejird.	Sambat, or Era of Vicramáditya.	Sáca, or Era of Sáliváhan.
622	1 Th. 15 July		678	544
700	— 81 W. 14 Feb.	69 S. 30 May	756	622
1000	391 St. 30 Nov.	369 St. 16 Mar.	1056	922
1100	494 M. 5 Nov.	469 M. 20 Feb.	1156	1022
1200	597 W. 11 Oct.	569 W. 26 Jan.	1256	1122
1300	— 700 Th. 15 Sep.	669 F. 1 Jan. 670 St. 31 Dec.	1356	1222
1400	803 St. 21 Aug.	770 M. 6 Dec.	1456	1322
1500	906 M. 27 July	870 W. 11 Nov.	1556	1422
1600	1009 W. 2 July	970 F. 17 Oct.	1656	1522
1700	—1112 Th. 6 June	1070 S. 22 Sept.	1756	1622
1800	—1215 St. 12 May	1170 T. 28 Aug.	1856	1722
1820	1236 S. 26 Sep.	1190 M. 23 Aug.	1876	1742
1840	—1256 W. 21 Feb.	1210 S. 18 Aug.	1896	1762
1850	—1267 T. 24 Oct.	1220 W. 16 Aug.	1906	1772
1900	1318 M. 17 Apr.	1270 Th. 3 Aug.	1956	1822
2000	1421 Th. 25 Mar.	1370 St. 9 July	2056	1922

The following paper "ON ANNUITIES ON LIVES," which was read at the Meeting of the British Association for the Advancement of Science, in 1857, will explain the construction of the NEW TABLES IV., VI., and VII.

"The tables of the values of Annuities on Lives, as hitherto constructed, only show the rate of Interest which a purchaser may make on the money employed, and replace the *Capital*, provided he can reinvest the surplus income, beyond the interest on the *purchase money*, at the same rate of Interest.

"As it is often important to know the price which should be paid for such annuities, in order that the purchaser may enjoy a certain higher rate of interest on the money invested, while the circumstances of the times only permit a much lower rate to be calculated upon for the future investments, I have constructed the following Formula, which will show the purchase money to be paid for an annuity under such circumstances.

"Let $\mathfrak{A}$ = annuity on the given life.
x = age.
r = interest of £1 for one year, as used in the Table of Annuities, and at which rate the re-investments are to be made.
r' = interest of £1 for one year required by the purchaser, for the use of his money.

"*Formula.* $\dfrac{1}{\dfrac{1}{\mathfrak{A}_x}-r+r'}$ = present worth of annuity on a life aged x, so as to secure a certain higher rate of interest on the Capital employed, while the surplus income is invested at the rate at which the Annuity Table is constructed.

"The same principle applies at various rates of interest, and to annuities for terms of years certain, or annuities for joint lives, or the longest of two lives, &c.

"I beg to annex a Table, with an example, showing the mode of construction.

TABLE OF ANNUITIES, *according to the Carlisle Table of Mortality at* 3 *per cent.; also the price which should be paid for an Annuity, so that the purchaser may obtain* 5 *per cent. Interest on the Money invested, while the re-investments to replace Capital are estimated to be made at only* 3 *per cent.*

Age.	Value of ANNUITY at 3 per Cent. Carlisle.	Value of ANNUITY if 5 per Cent. is to be enjoyed, while the Re-investments are only made at 3 per Cent.
20	21·695	15·130
30	19·557	14·058
40	17·142	12·765
50	14·302	11·121
60	10·491	8·671
70	7·123	6·235
80	4·365	4·014
90	2·499	2·380

"*Example.* At the age of 20, the value of an annuity, Carlisle 3 per Cent. Table, is 21·69528 years' purchase; the log. of which is 1·3363652, and the complement is ·6636348, and the equivalent number is 4·6093, which represents the per centage that every £100 would receive annually. This sum of 4·6093 is composed of £3 for the interest on £100, and £1·6093, which being re-invested annually at 3 per cent. during the life of 20, will replace the £100.

"As we wish to receive £5 per cent. instead of £3 per cent. we must add 2 to the 4·6093, making 6·6093, which is the per centage we ought to get in order that we may enjoy £5 per cent. while the re-investments are made at £3 per cent. We find that the log. of 6·6093 is ·8201555, and the complement is ·1798445—the equivalent number being 15·130, or the value of an annuity at the age of 20, which will afford 5 per cent. to be enjoyed; while the surplus (1·6093), accumulated at 3 per cent., will replace the capital, if the party lives according to the experience of the Carlisle Table of Mortality."

12 *December*, 1854. "CHARLES M. WILLICH."

EXPECTATION OF LIFE.

The approximation to a **LAW OF MORTALITY** has long been an object of great interest, and I have, therefore, endeavoured by a simple Hypothesis to deduce the approximate Expectation of Life at all ages from 5 to 60.

Let a = the age.

For Selected Lives, the Formula $\frac{2}{3}(81\frac{1}{2} - a) =$ expectation.

The results by this law coincide closely with those obtained by the use of the Carlisle Table of Mortality, from the age of 25 to 60.

For the average Value of Life in England, the Formula $\frac{2}{3}(80 - a) =$ expectation.

This I have found to correspond very nearly with the calculated Expectation, deduced from Dr. Farr's English Life Table.

The following papers on the EXPECTATION OF LIFE, will show the close approximation of the law to the results of the respective Tables.

[*Read at the Meeting of the British Association for the Advancement of Science,* 1857.]

"No law has hitherto been discovered by which a correct table of mortality could be constructed, but attempts have been made by *De Moivre* and others to obtain an approximation.

"If, in conformity with the opinion now generally entertained, and in which I concur, we adopt the Carlisle Table of Mortality, as formed by ***Milne*** from the observations of *Dr. Heysham*, as a nearer approximation to the actual duration of human life than any other table of mortality hitherto in use, it is remarkable that the following simple hypothesis should enable us to obtain the *expectation of life* almost identical with *Milne's* table for a long series of years up to the age of 60.

"Let a = the age, then $\frac{2}{3}(81\frac{1}{2} - a) =$ expectation.

"We may fairly consider those individuals who attain the age of 60 as selected lives, who may be expected to range within a higher limit than those whom we found existing at the age of 5. Therefore I venture to assume that the respective groups of lives existing at the ages of 5, 60, and 74, fall under different laws.

"The following expressions will give the expectation of life closely approximating to the results as calculated by *Milne.*

From the age of 5 to 60.

$\frac{2}{3}$ of the difference between the age and $81\frac{1}{2} =$ expectation;
or $\frac{2}{3}(81\frac{1}{2} - a) =$ expectation.

From the age of 60 to 74.

$\frac{1}{2}$ of the difference between the age and $88\frac{2}{3} =$ expectation;
or $\frac{1}{2}(88\frac{2}{3} - a) =$ expectation.

From the age of 74 to 90.

$\frac{1}{4}$ of the difference between the age and $103 =$ expectation;
or $\frac{1}{4}(103 - a) =$ expectation."

"CHARLES M. WILLICH."

13 *June*, 1856.

TABLE showing the EXPECTATION OF LIFE, according to the **CARLISLE** Table of Mortality, and the HYPOTHESES proposed by CHARLES M. WILLICH.

Age.	By Carlisle Table of Mortality.	By the proposed Hypotheses.	Age.	By Carlisle Table of Mortality.	By the proposed Hypotheses.
	Years Parts.	Years. Parts.		Years. Parts.	Years Parts.
5	51·25	51·00	48	22·50	22·33
6	51·17	50·33	49	21·81	21·66
7	50·80	49·66	**50**	21·11	21·00
8	50·24	49·00	51	20·39	20·33
9	49·57	48·33	52	19·68	19·66
10	48·82	47·66	53	18·97	19·00
11	48·04	47·00	54	18·28	18·33
12	47·27	46·33	**55**	17·58	17·66
13	46·51	45·66	56	16·89	17·00
14	45·75	45·00	57	16·21	16·33
15	45·00	44·33	58	15·55	15·66
16	44·27	43·66	59	14·92	15·00
17	43·57	43·00	**60**	14·34	14·33
18	42·87	42·33	61	13·82	13·83
19	42·17	41·66	62	13·31	13·33
20	41·46	41·00	63	12·81	12·83
21	40·75	40·33	64	12·30	12·33
22	40·04	39·66	**65**	11·79	11·83
23	39·31	39·00	66	11·27	11·33
24	38·59	38·33	67	10·75	10·83
25	37·86	37·66	68	10·23	10·33
26	37·14	37·00	69	9·70	9·83
27	36·41	36·33	**70**	9·18	9·33
28	35·69	35·66	71	8·65	8·83
29	35·00	35·00	72	8·16	8·33
30	34·34	34·33	73	7·72	7·83
31	33·68	33·66	74	7·33	7·33
32	33·03	33·00	**75**	7·01	7·00
33	32·36	32·33	76	6·69	6·75
34	31·68	31·66	77	6·40	6·50
35	31·00	31·00	78	6·12	6·25
36	30·32	30·33	79	5·80	6·00
37	29·64	29·66	**80**	5·51	5·75
38	28·96	29·00	81	5·21	5·50
39	28·28	28·33	82	4·93	5·25
40	27·61	27·66	83	4·65	5·00
41	26·97	27·00	84	4·39	4·75
42	26·34	26·33	**85**	4·12	4·50
43	25·71	25·66	86	3·90	4·25
44	25·09	25·00	87	3·71	4·00
45	24·46	24·33	88	3·59	3·75
46	23·82	23·66	89	3·47	3·50
47	23·17	23·00	**90**	3·28	3·25

EXPECTATION OF LIFE.

[*Read before the Institute of Actuaries on 31st January,* 1859.]

"DR. FARR, in the Twelfth Report of the Registrar-General, has given the value of Annuities and the Expectation of Life as deduced from the ***Male English Life Table.***

"Observing a very uniform difference between the results thus obtained and those from the *Carlisle* Table of Mortality, it appeared to me probable that a simple Hypothesis might be constructed, which would produce a close approximation to the Expectation of Life between certain ages, but somewhat less favourable than the Hypothesis I proposed in 1857 for the Expectation of Life according to the *Carlisle* Table of Mortality.

"On a further investigation, I have found that between the ages of 5 and 60 the following Hypothesis will give a very close approximation to the Expectation of Life, as calculated by Dr. Farr.

"Let a = the age, then $\frac{2}{3}(80-a)$ = expectation ;
or $\frac{2}{3}$ of the difference between the age and 80 = expectation."

"CHARLES M. WILLICH."

20 *January,* 1859.

TABLE showing the EXPECTATION OF LIFE, according to the MALE ENGLISH LIFE TABLE, and the HYPOTHESIS proposed by CHARLES M. WILLICH.

Age.	By English Life Table. Males.	By the proposed Hypothesis.	Age.	By English Life Table. Males.	By the proposed Hypothesis.	Age.	By English Life Table. Males.	By the proposed Hypothesis.
	Years Parts.	Years. Parts.		Years. Parts.	Years. Parts.		Years. Parts.	Years. Parts.
5	50·21	50·00	**25**	36·60	36·66	**45**	23·13	23·33
6	49·89	49·33	26	35·92	36·00	46	22·48	22·66
7	49·39	48·66	27	35·24	35·33	47	21·82	22·00
8	48·81	48·00	28	34·57	34·66	48	21·17	21·33
9	48·16	47·33	29	33·89	34·00	49	20·52	20·66
10	47·47	46·66	**30**	33·21	33·33	**50**	19·87	20·00
11	46·73	46·00	31	32·53	32·66	51	19·22	19·33
12	45·95	45·33	32	31·85	32·00	52	18·58	18·66
13	45·17	44·66	33	31·17	31·33	53	17·94	18·00
14	44·38	44·00	34	30·50	30·66	54	17·30	17·33
15	43·62	43·33	**35**	29·82	30·00	**55**	16·66	16·66
16	42·84	42·66	36	29·15	29·33	56	16·02	16·00
17	42·08	42·00	37	28·47	28·66	57	15·39	15·33
18	41·35	41·33	38	27·80	28·00	58	14·77	14·66
19	40·67	40 66	39	27·13	27·33	59	14·18	14·00
20	39·99	40·00	**40**	26·46	26·66	**60**	13·60	13·33
21	39·31	39·33	41	25·79	26·00			
22	38·63	38·66	42	25·12	25·33			
23	37·96	38·00	43	24·46	24·66			
24	37·28	37·33	44	23·79	24·00			

BANK OF ENGLAND DISCOUNTS.

The following TABLE shows the alterations in BANK DISCOUNTS from 1844 to 1858, with the Amount of BANK NOTES issued, and of BULLION held, at the respective periods:—also the average price of WHEAT in each year, and price of 3 ℘ Cent. Stock on the days of Change.

Price of 3 ℘ Cent. Red.	Price of 3 ℘ Cent. Cons.		Date.	Minimum Rate ℘ Cent.	BULLION.	Bank Notes Issued. Held by the Public.	Bank Notes Issued. In reserve by Bank of England.	Bank Notes Issued. Total.	Average Price of Wheat. s.	Average Price of Wheat. d.
					£	£	£	£	s.	d.
	98½		1844. Aug. 31	4	15,315,000	20,448,000	7,732,000	28,180,000	51	3
	99½		Sept. 7	2½	15,209,000	20,176,000	8,175,000	28,351,000		
	95¾		1845. Nov. 8	3½	13,723,000	21,765,000	5,438,000	27,203,000	50	10
	96½		1846. Aug. 29	3	16,366,000	20,426,000	9,450,000	29,876,000	54	8
	93½		1847. Jan. 16	3½	13,949,000	20,679,000	6,546,000	27,225,000	69	9
	90½		23	4	13,443,000	20,599,000	6,167,000	26,766,000		
	85¾		Ap. 10	5	9,867,000	20,403,000	2,833,000	23,236,000		
	86¼	Panic Year.	Aug. 7	5½	9,253,000	18,688,000	3,946,000	22,634,000		
	81½		Oct. 25	8	8,313,000	20,318,000	1,547,000	21,865,000		
	84½		Nov. 22	7	10,017,000	19,298,000	4,228,000	23,526,000		
	85⅝		Dec. 4	6	11,033,000	18,783,000	5,583,000	24,366,000		
85			24	5	12,237,000	17,823,000	7,786,000	25,609,000		
	89⅝		1848. Jan. 29	4	13,390,000	19,142,000	7,640,000	26,782,000	50	6
	84½		June 17	3½	14,169,000	17,377,000	9,975,000	27,352,000		
	86		Nov. 4	3	13,408,000	18,554,000	8,243,000	26,797,000		
	94½		1849. Nov. 24	2½	16,380,000	17,999,000	11,571,000	29,570,000	44	3
97¼			1850. Dec. 28	3	14,964,000	18,574,000	9,778,000	28,352,000	40	3
			1851.						38	6
97¼			1852. Jan. 3	2½	17,558,000	19,285,000	11,707,000	30,992,000	40	9
	99¾		Ap. 24	2	19,588,000	21,599,000	11,500,000	33,099,000		
	100⅜		1853. Jan. 8	2½	*19,766,000	23,361,000	9,809,000	33,170,000	53	3
	99¼		22	3	19,405,000	23,474,000	9,444,000	32,918,000		
98½			June 4	3½	18,254,000	23,423,000	8,367,000	31,790,000		
	97½		Sept. 3	4	16,500,000	22,466,000	7,697,000	30,163,000		
	95½		17	4½	15,862,000	22,422,000	6,977,000	29,399,000		
	93¼		Oct. 1	5	15,613,000	22,773,000	6,259,000	29,032,000		
	88	War with Russia.	1854. May 13	5½	12,589,000	21,144,000	4,713,000	25,857,000	72	5
	92¼		Aug. 5	5	13,300,000	20,302,000	6,291,000	26,593,000		
	92½		1855. Ap. 7	4½	15,079,000	19,812,000	8,580,000	28,392,000	74	8
	89¼		May 5	4	15,619,000	20,168,000	8,743,000	28,911,000		
92½			June 16	3½	18,061,000	19,536,000	11,814,000	31,350,000		
	90⅝		Sept. 8	4	14,270,000	20,142,000	7,526,000	27,668,000		
	90¼		15	4½	13,698,000	19,713,000	7,397,000	27,110,000		
	88½		29	5	12,939,000	20,173,600	6,195,000	26,368,000		
	87¾		Oct. 6	5½	12,279,000	20,292,000	5,473,000	25,765,000		
	87¼		20	6 & 7	11,230,000	20,372,000	4,310,000	24,682,000		
	94⅝		1856. May 24	6	10,559,000	19,332,000	5,082,000	24,414,000	69	2
	94½		31	5	11,385,000	19,554,000	5.687,000	25,241,000		
95⅝			June 28	4½	13,074,000	19,515,000	7,389,000	26,904,000		
	92½		Oct. 4	5	10,784,000	20,926,000	3,776,000	24,702,000		
	91⅞		11	6 & 7	10,140,000	20,543,000	3,521,000	24,064,000		
	92¾		Nov. 15	7	9,684,000	19,929,000	3,607,000	23,536,000		
	94⅞		Dec. 6	6½	10,486,000	19,195,000	5,151,000	24,346,000		
93¾			20	6	10,514,000	18,513,000	5,864,000	24,377,000		
	93⅜	Indian Mutiny.	1857. Ap. 2	6½	9,987,559	19,056,870	4,628,120	23,684,990	56	4
92¾			June 18	6	10,909,255	18,772,185	5,924,190	24,696,375		
	91⅝	American Panic.	July 16	5½	11,592,160	19,962,215	5,451,180	25,413,395		
	89⅞		Oct. 8	6	10,662,692	19,947,275	4,606,040	24,553,315		
	88		12	7	10,109,943	19,990,110	4,024,400	24,014,510		
	88¼		19	8	9,524,478	20,183,245	3,217,185	23,400,430		
	88¾		Nov. 5	9	8,731,553	20,371,970	2,258,275	22,630,245		
	88½		12	10	7,170,508	20,183,355	957,710	†21,141,065		
93⅜			Dec. 24	8	10,753,281	19,257,120	7,426,670	26,683,790		
	94¾		1858. Jan. 7	6	12,643,193	19,499,005	7,088,920	26,587,925	44	2
	94⅞		14	5	13,347,107	19,671,730	7,540,675	27,212,405		
	95¼		28	4	15,398,724	19,664,710	9,418,630	29,083,340		
	95½		Feb. 4	3½	15,793,696	20,075,065	9,370,100	29,445,165		
	96½		11	3	16,574,647	19,603,315	10,617,445	30,220,760		
	96¾		Dec. 9	2½	18,921,171	20,038,910	12,731,260	32,770,170		

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* On 10 July, 1852, Bullion in Bank £22,232,138.

† Two Millions issued under the authority of Government.

NOTES. (No. 3.)—*continued.* PAGE 92.

BANK OF ENGLAND DISCOUNTS.—*continued.*

The following TABLE shows the alterations in BANK DISCOUNTS from 1859 to 1867, with the Amount of BANK NOTES issued, and of BULLION held, at the respective periods:—also the average price of WHEAT in each year, and the price of **3** ₽ Cent. Stock on the days of Change.

Price of 3 ₽ Cent. Red.	Price of 3 ₽ Cent. Cons.		Date.	Minimum Rate ₽ Cent.	BULLION.	Bank Notes Issued. Held by the Public.	Bank Notes Issued. In reserve by Bank of England.	Bank Notes Issued. Total.	Average Price of Wheat.
					£	£	£	£	s. d.
	88		1859. Ap. 28	3½	17,640,342	21,938,625	9,496,645	31,435,270	43 9
	90		May 5	4½	17,205,480	22,255,685	8,790,350	31,046,035	
	93½		June 2	3½	17,764,596	21,092,355	10,478,390	31,570,745	
	93¾	Chinese War.	9	3	17,957,887	21,134,345	10,607,545	31,741,890	
	95½		July 14	2½	17,941,791	21,712,530	10,100,525	31,813,055	
	95½		1860. Jan. 19	3	15,884,498	22,053,140	7,589,865	29,643,005	53 3
	94⅛		31	4	14,942,502	21,906,340	6,846,370	28,752,710	
	94⅛		Mar. 29	4½	15,271,701	20,980,355	8,082,685	29,063,040	
	94⅜		Ap. 12	5	14,637,102	23,467,255	4,922,085	28,389,340	
	95¼		May 10	4½	15,373,326	21,880,935	7,182,845	29,063,780	
	95¼		24	4	15,844,195	21,223,290	8,346,100	29,569,390	
	93¼		Nov. 8	4½	13,897,085	21,206,070	6,429,370	27,635,440	
	93⅛		13	5	13,314,811	20,659,270	6,338,385	26,997,655	
	92⅛		15	6					
	93¾		29	5	13,860,376	19,900,215	7,636,360	27,536,575	
92⅝			Dec. 31	6					
92⅛			1861. Jan. 2		12,652,839	20,511,595	5,899,815	26,411,410	55 4
	92		7	7					
	91¾		9		12,175,386	20,453,800	5,518,115	25,971,915	
	91¾		Feb. 14	8	11,571,332	19,690,160	5,535,845	25,226,005	
	92		Mar. 21	7	12,701,425	18,851,195	7,453,425	26,304,620	
	91½		Ap. 4	6	13,000,130	19,823,970	6,844,490	26,668,460	
	91¾		11	5	13,122,432	20,158,340	6,690,360	26,848,700	
	91¾		May 16	6	11,719,469	20,042,790	5,978,195	26,020,985	
	90		Aug. 1	5	12,126,708	20,297,940	5,706,760	26,004,700	
	90½		15	4½	12,647,658	20,103,520	6,288,460	26,391,980	
	92½		29	4	13,104,322	19,754,080	7,137,875	26,891,955	
	93¾		Sept. 19	3½	13,999,792	19,836,180	7,987,265	27,823,445	
	93¼		Nov. 7	3	14,210,774	20,773,315	7,279,960	28,053,275	
	93½		1862. Jan. 9	2½	16,046,017	20,353,615	9,505,300	29,858,915	55 5
	93⅜		May 22	3	16,344,940	20,880,055	9,217,290	30,097,345	
	92		July 10	2½	17,055,537	21,815,660	9,021,975	30,837,635	
	93½		24	2	18,060,617	22,203,055	9,652,160	31,855,215	
	93¾		Oct. 3	3	16,949,137	21,533,060	9,366,245	30,899,305	
	92¾		1863. Jan. 15	4	14,102,169	20,286,805	7,601,370	27,888,175	44 9
	92¼		28	5	13,611,823	20,101,170	7,286,305	27,387,475	
	92¾		Feb. 19	4	14,589,222	19,310,720	8,990,535	28,301,255	
	93		Ap. 23	3½	15,387,151	20,800,305	8,391,525	29,191,830	
	93¼		30	3	15,348,492	20,868,465	8,272,940	29,141,405	
	93½		May 16	3½	14,653,141	20,637,610	7,744,315	28,381,925	
	93½		21	4	14,529,451	20,683,110	7,661,395	28,344,505	
	93		Nov. 2	5	13,799,428	22,040,970	5,803,605	27,844,575	
	92¼		5	6					
	90⅝		Dec. 2	7	13,048,475	21,022,625	6,061,765	27,084,390	
	90⅛		3	8					
	91⅝		24	7	14,217,067	19,656,815	8,496,345	28,153,160	
	90½		1864. Jan. 20	8	12,974,109	20,827,195	6,128,295	26,955,490	40 2
	90¾		Feb. 11	7	13,472,271	20,161,920	7,241,285	27,403,185	
	91⅞		25	6	13,819,412	19,674,915	8,028,165	27,703,080	
	91½		Ap. 16	7	13,080,400	21,256,220	5,770,725	27,026,945	
	90¾		May 2	8	12,567,776	20,956,235	5,520,300	26,476,535	
	90¾		5	9	12,454,244	21,484,250	4,944,180	26,428,430	
	91¾		9	8	13,267,446	20,819,535	6,431,630	27,251,165	
	91¾		26	7	13,713,943	20,416,805	7,274,500	27,691,305	
	90		June 16	6	14,304,205	20,127,850	8,075,985	28,203,835	
	90		July 25	7	12,996,685	21,635,545	5,318,980	26,954,525	
	89⅝		Aug. 4	8	12,877,433	21,928,940	4,892,785	26,821,725	

NOTES. (No. 3)—*continued.* Page 92.

BANK OF ENGLAND DISCOUNTS—*continued.*

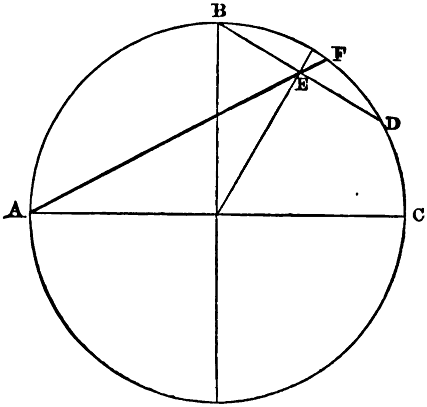
The following TABLE shows the alterations in BANK DISCOUNTS from 1859 to 1870, with the Amount of BANK NOTES issued, and of BULLION held, at the respective periods:—also the average price of WHEAT in each year, and the price of 3 ⅌ Cent. Stock on the days of Change.

Price of 3 ⅌ Cent.		DATE.	Minimum Rate ⅌ Cent.	BULLION.	BANK NOTES ISSUED.			Average Price of WHEAT.
Red.	Cons.				Held by the Public.	In reserve by Bank of England.	Total.	
				£	£	£	£	s. d.
	87⅝	1864. Sept. 8	9	12,970,447	20,809,865	6,067,030	26,876,895	40 2
	90⅝	Nov. 10	8	13,647,270	20,390,095	7,184,915	27,575,010	
	91¼	24	7	14,131,094	19,564,855	8,489,385	28,054,240	
	89⅝	Dec. 15	6	14,122,711	19,178,715	8,825,360	28,004,075	
	90¼	1865. Jan. 12	5½	14,097,390	20,482,285	7,576,205	28,058,490	41 10
	90	26	5	14,317,215	20,146,015	8,073,300	28,219,315	
	89	Mar. 2	4½	14,801,367	19,933,285	8,728,015	28,661,300	
	91	Ap. 27	4	14,754,795	21,009,035	7,551,410	28,560,445	
	90⅝	May 4	4½	14,680,574	21,603,400	6,902,615	28,506,015	
	90½	25	4	15,299,268	20,861,915	8,147,440	29,009,355	
	91⅝	June 1	3½	15,838,491	20,910,595	8,658,780	29,569,375	
	90⅝	15	3	16,045,669	20,729,395	9,011,885	29,741,280	
	90⅛	July 27	3½	14,503,679	22,071,570	6,181,480	28,253,050	
	90	Aug. 3	4	14,457,648	22,646,330	5,607,475	28,253,805	
	89⅝	Sept. 28	4½	13,960,819	21,502,645	6,276,080	27,778,725	
	89	Oct. 2	5					
	89	5	6	13,183,837	22,728,160	4,362,125	27,090,285	
	88½	7	7					
	89⅝	Nov. 23	6	14,465,032	20,583,960	7,739,940	28,323,900	
	87¼	Dec. 28	7	13,403,102	20,461,835	6,877,840	27,339,675	
	87¼	1866. Jan. 4	8	13,106,183	21,776,435	5,253,240	27,029,675	49 11
	87½	Feb. 22	7	13,822,935	20,562,590	7,409,100	27,971,690	
	87¼	Mar. 15	6	14,327,618	20,523,075	7,904,785	28,427,860	
	86⅝	May 3	7	13,509,140	22,872,770	4,839,250	27,712,020	
	86¼	8	8					
	85¼	† 11	9	13,156,140	22,344,395	4,950,325	27,294,720	
	86¼	12	10					
	88⅛	Aug. 15	8	14,150,956	24,540,090	3,611,505	28,151,595	
	88⅝	23	7	14,772,220	24,182,115	4,508,520	28,690,635	
	89⅝	30	6	15,832,020	23,898,510	5,833,605	29,732,115	
	89¼	Sept. 6	5	16,195,212	24,221,245	5,877,145	30,098,390	
	89⅝	27	4½	16,729,262	23,049,665	7,586,445	30,636,110	
	89½	Nov. 8	4	16,891,606	23,561,330	7,375,915	30,937,245	
	90	Dec. 20	3½	18,815,714	22,100,485	10,599,060	32,699,545	
	90⅞	1867. Feb. 7	3	19,024,193	23,024,170	10,070,770	33,094,940	64 5
	94⅝	May 30	2½	20,417,283	22,929,170	11,358,595	34,287,765	
	94⅛	July 25	2	22,771,864	24,002,715	12,555,180	36,557,895	
	94⅛	1868. Nov. 19	2½	18,356,659	23,489,100	8,713,520	32,202,620	63 9
	92⅛	Dec. 3	3	18,087,448	22,510,110	8,497,315	32,007,425	
	92⅞	1869. Apl. 1	4	17,573,023	23,611,525	7,862,295	31,473,820	48 2
	93¼	May 6	4½	16,582,086	24,005,565	6,504,995	30,510,560	
	92½	June 10	4	17,630,883	22,842,485	9,626,235	32,468,720	
	92⅞	24	3½	19,595,960	22,680,440	10,731,710	33,412,150	
	93	July 15	3	19,769,838	23,912,415	9,836,490	33,748,905	
	93	Aug. 19	2½	20,957,809	23,687,435	11,223,350	34,910,785	
	93¼	Nov. 4	3	18,593,058	24,055,790	8,604,880	32,660,670	
	90	1870. July 21	3½	20,440,515	24,264,445	10,282,105	34,546,550	46 11
	90	23	4					
	89½	28	5	19,252,490	24,177,610	9,217,130	33,394,740	
	88⅞	Aug. 4	6	18,761,616	24,430,785	8,527,100	32,957,885	
	91¼	11	5½	19,080,696	23,780,740	9,449,585	33,230,325	
	91⅝	18	4½	19,785,988	23,536,035	10,276,425	33,812,460	
	91⅝	25	4	19,993,646	23,246,305	10,861,070	34,107,375	
	91⅞	Sept. 1	3½	20,636,733	23,356,450	11,391,455	34,747,905	
	92¼	15	3	21,547,952	23,064,601	12,615,185	35,679,786	
	91¾	29	2½	22,376,842	23,293,440	13,277,395	36,570,835	
	91⅝	1871. Mar. 2	3					

† *Suspension of Bank Charter Act authorized by Government.*

NOTES. (No. 4.) PAGE 116.

ON AN APPROXIMATE GEOMETRICAL QUADRATURE OF THE CIRCLE.



"On a Simple Geometrical construction, giving a very approximate QUADRATURE of the CIRCLE." By C. M. WILLICH. Communicated to the Royal Society by Professor Stokes, Sec. R.S., on 10 May, 1855.

"Let A B be a quadrant of a circle A B C. In the arc B C place a chord B D equal to the radius, so that the arc B D is one of 60°. Bisect B D in E; join A E, and produce the joining line to meet the circumference in F. Then A F differs from the side of a square equal in area to the circle by somewhat more than the one four thousandth part of that side."

The amount of Error, which is about the $\frac{1}{3747}$ part of the side of the Square, may be thus shown.

Let the Radius = 1. Then $x\,y = (1 + \cos 30°)(1 - \cos 30°) = \frac{1}{4}$.

The line A E $= x$.

E F $= y$.

A F $= x + y$.

$$x^2 = 1 + \cos^2 30° + \cos 30° = 1 + \tfrac{3}{4} + \frac{\sqrt{3}}{2} = \frac{7 + 2\sqrt{3}}{4}.$$

$$\therefore\ x = \tfrac{1}{2}\sqrt{7 + 2\sqrt{3}} = 1{\cdot}6174131827 \text{ \&c.}$$

$$y = \frac{1}{4x} = \frac{1}{2\sqrt{7 + 2\sqrt{3}}} = {\cdot}1545678016 \text{ \&c.}$$

$$x + y = \tfrac{1}{2}\left\{\sqrt{7 + 2\sqrt{3}} + \frac{1}{\sqrt{7 + 2\sqrt{3}}}\right\} = \tfrac{1}{2}\,\frac{8 + 2\sqrt{3}}{\sqrt{7 + 2\sqrt{3}}} =$$

$$= \frac{4 + \sqrt{3}}{\sqrt{7 + 2\sqrt{3}}} = 1{\cdot}7719809844 \text{ \&c.}$$

But when the Diameter is 2 the Area is 3·141592653 &c.
and the Square Root is . . . . 1·77245385 &c.
which is the Side of a Square equal to the Area of the Circle.

According to the Diagram the line A F is the side of a *Square*, by calculation found to be . . . . 1·77198098 &c.

The Difference between the sides of the Squares is . . . ·00047287 &c.

Or the side determined by this simple Geometrical construction differs in defect from the truth by only $\frac{1}{3747}$ of itself.

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